

Austria	Sch. 1.8	Indonesia	Rp 2500	Paraguay	Esc 0.0
Belgium	Bel 360	Italy	L. 1700	S. Arabia	Ria 6.0
Canada	Can 1.2	Japan	Yen 150	Singapore	S\$ 1.0
Ceylon	Cen 1.0	Korea	Won 100	Sri Lanka	Rs 1.0
Denmark	Dkr 7.2	Malaysia	Mal 1.0	Taiwan	Nt 2.0
Egypt	Eg 1.0	Norway	Nkr 1.0	Thailand	Th 2.0
France	Fr 6.0	Philippines	Ph 1.0	U.A.E.	Dir 2.0
Germany	DM 2.0	S. Korea	Won 100	U.S.A.	\$ 1.0
Greece	Gr 1.0	Singapore	S\$ 1.0		
Hong Kong	HK\$ 1.0	Sri Lanka	Rs 1.0		
India	Rp 1.0	Taiwan	Nt 2.0		
		Thailand	Th 2.0		
		U.A.E.	Dir 2.0		
		U.S.A.	\$ 1.0		

# FINANCIAL TIMES

EUROPE'S BUSINESS NEWSPAPER

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Tuesday February 5 1985

D 8523 B

Airbus experiences  
turbulence on  
two fronts, Page 14

## World news

## Business summary

## Indian says he passed secrets

A New Delhi businessman at the centre of India's spy scandal claimed that he had been passing secret defence and political information to France, East Germany and Poland in an operation he considered for 25 years.

His admission, which considerably widens the scope and significance of India's biggest spy scandal, was given in closed court shortly after two senior civil servants, whose office staff had leaked documents to the businessman, left their ministries on permanent leave.

The civil servants are M. C. Sarin, production secretary in the Ministry of Defence, and A. S. Bajaj, an additional secretary (equivalent to deputy secretary) in the Ministry of Finance, Page 16

## Solidarity warning

A leading Solidarity underground publication has warned that the organisation will oppose any International Monetary Fund programmes for Poland which could lead to a sharp drop in the standard of living. Page 2

## Nuclear protest

West Germany's environmental and anti-nuclear movements declared an all-out campaign against the country's first nuclear reprocessing plant at Wackersdorf, close to the Czech frontier in eastern Bavaria. Preliminary work on it will begin in a few months time. Page 2

## Defence review

The U.S. Government said it was reviewing its defence co-operation with New Zealand because of that country's refusal to allow a visit by an American warship.

## Gibraltar poll

Gibraltar's population is overwhelmingly opposed to the reversion of sovereignty in the talks which Britain and Spain start today in Geneva, according to an opinion poll. Page 2

## Swiss blockade

Swiss truck drivers blockaded border crossings with France, West Germany, Austria and Italy, almost bringing commercial traffic to a standstill.

## Yugoslavs jailed

Three Yugoslav intellectuals were jailed for terms from one to two years after being found guilty of spreading propaganda hostile to the state. Page 2

## Manila protest

More than 15 people were injured when Philippine Government demolition squads backed by riot police fought pitched battles with hundreds of stone-throwing squatters in Manila.

## Mengele mock trial

Jewish twins and dwarfs who served as experiment subjects for Nazi concentration camp doctor Josef Mengele began testifying at a mock trial in Jerusalem intended to document the horror of his genetic experiments.

## Pope's peace plea

Pope John Paul called on Peruvian Maoist guerrillas of the Sendero Luminoso group to lay down their arms.

## Israeli killed

Israeli army launched a manhunt for Palestinian guerrillas who shot dead an Israeli soldier in the centre of El-Bireh, north of Jerusalem on the occupied West Bank. Page 4

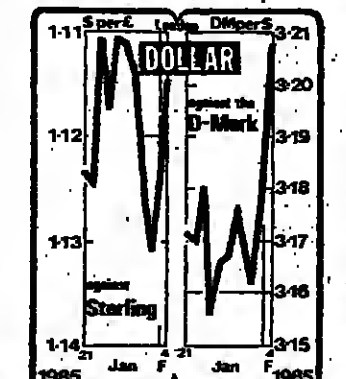
## Nato forces head

U.S. President Ronald Reagan appointed Gen Bernard Rogers to another two-year term as commander of the Nato forces.

## KHD to buy out engine supplier

KLÖCKNER-HUMMOLDT-DIESEL, the West German diesel engine and tractor manufacturer, has bought control of MWM, diesel engine division of Knorr-Bremse and a leading supplier of engines to Renault and Ford, two of KHD's rivals in the European tractor market. Page 17

WALL STREET: The Dow Jones industrial average closed up 12.36 at 1,290.08. Section III



DOLLAR was very firm in London, rising to DM 3.2115 (DM 3.1785), a record FR 8.8125 (FR 8.71), SwFr 2.738 (SwFr 2.7055) and Y259.35 (Y258.7). On Bank of England figures the dollar's exchange index rose to a record 148.0 from 146.7. Page 37

STERLING lost 1.05 cents against the dollar in London to \$1.14. It was firmer against other leading currencies, however, closing at DM 3.5825 (DM 3.57), FR 10.935 (FR 10.91), SwFr 3.0625 (SwFr 3.04) and Y280.0 (Y278.75). The pound's exchange index fell 0.4 to 71.3. Page 37

GOLD fell \$1.50 on the London bullion market to \$301.75. It also lost ground in Zurich to \$301.10. In New York the Comex February settlement was \$302.10. Page 36

TOKYO: Shares closed higher with the Nikkei-Dow market average up 1.32 at 11,881.08. Section III

LONDON: Equities and government stocks were hit by interest rate fears, with the FT Ordinary index closing down 9.2 at 988.3. Section III

LONDON'S financial markets boomed during January as business volumes reached record levels. The value in business traded in securities on the Stock Exchange was £410.8bn (\$460bn), £16.9bn higher than in December.

HONG KONG High Court ordered the winding up of Deak Perera (Far East), the gold and foreign exchange dealing subsidiary of Deak Perera of the U.S. Page 19

GENERAL MOTORS, the world's largest car maker, is planning to acquire Northwest Mortgage, the second biggest mortgage banking group in the U.S.

PAULS, UK manufacturer of animal feeds, malt and flavouring, rejected as "entirely unsatisfactory" a £100m (\$118m) bid from Harrison & Crossfield, the plantations and chemicals group. Lex, Page 15

LLOYD'S of London, the leading world insurance body, is to sell its life company, Lloyd's Life Assurance, thereby moving out of the long-term life and pensions field. The sale is expected to raise £100m (\$111.4m).

NESTLÉ, the Swiss foods group, has offered AS73m (\$87.7m) for 65 per cent of Lifesavers, an Australian producer of chocolate, confectionery, fruit juices and soft drinks. Page 18

STANDARD Chartered Bank has applied for permission to open a branch in Turkey and looks set to become the first British bank in the country. Page 18

DUNLOP OLYMPIC, the Australian battery, tyre and building supplies group, boosted net profits 22.4 per cent in the half-year to December 31 to A\$40.3m (\$31.8m) and raised interim dividend from 5 cents to 5.5 cents a share. Page 19

## Reagan abandons hope of balancing budget this term

BY STEWART FLEMING IN WASHINGTON

PRESIDENT Ronald Reagan conceded yesterday that he would not be able to achieve his goal of a balanced budget in his second term of office, but claimed that the budget he sent to Congress was a significant step towards reducing the federal deficit.

"The budget I propose... would reduce the deficit projected for 1986 to \$14.4bn - still a far cry from our goal of a balanced budget, but a significant step in the right direction and a 42 per cent reduction from the current services level projected for that year," he said in his budget message.

Mr Reagan's budget proposal, although already discounted as a blueprint which Congress will enact in detail, is nevertheless seen as a bold statement of the political priorities the President is establishing for his second term of office - more radical in some ways than the budget he submitted at the beginning of his first term.

In order to achieve a reduction in government spending outside the defence, social security and debt service categories, which account for about two thirds of total budget outlays - all of which are rising sharply - Mr Reagan is asking Congress to endorse large cuts in a wide range of government spending programmes which benefit the middle classes and powerful business interests.

His detailed proposals include the elimination of federal subsidies to state and local governments, of federal mass transit grants, of the Small Business Administration and cuts in federal workers' pay, in farm subsidies and in automatic cost-of-living increases to retiring military and civil service employees, for example.

The Export Import Bank's direct lending to promote U.S. business exports is also being stopped, and the budget message says the federal Government is not budgeting for future replenishments of the fi-

Budget component	Historic trend			President's budget		
	1970	1980	1985	1986	1988	1990
Share of GNP (%)	4.1	7.2	7.7	7.4	7.1	7.0
Social security	0.8	1.8	1.8	1.6	1.5	1.4
Safety net for poor	4.6	5.0	4.6	3.3	2.5	2.1
Other domestic programmes	8.3	5.1	6.4	6.6	7.1	7.4
Defence	1.2	0.8	1.5	0.8	0.7	0.7
National interest programmes	1.5	2.0	3.4	3.4	3.2	2.4
Net interest	20.2	22.9	24.8	22.2	22.2	20.9

nancess of multilateral development banks such as the International Development Association (IDA) beyond honouring existing commitments.

The politically bold attack on some of the large federal spending programmes which benefit the middle class would probably have gone further had the President not promised to leave unscathed the \$300bn request for social security spending. Mr Reagan has already hinted that he might not resist a congressional decision to limit social security, however.

Even supporters of the President's four-year, \$1 trillion (million) Continued on Page 16 Details, Page 6

## Hawke launches attack on EEC farm subsidies

BY QUENTIN PEEL IN BRUSSELS

MR. BOB HAWKE, the Australian Prime Minister, yesterday called on the EEC not to sell cheap beef in Asian and Pacific markets, and demanded a cut in subsidised sales of other European farm products in the region.

He launched a vigorous attack on the disruptive external effects of the Community's Common Agricultural Policy (CAP) after several hours of talks with members of the new European Commission, headed by Mr Jacques Delors.

Mr Hawke, visiting Brussels for the first time since he became Prime Minister in 1983, also attacked the growing trade protectionism among the big industrialised nations, which he blamed for the failure of U.S. economic growth to percolate through to the rest of the world for "clear signals" from the new European Commission that it would continue the process of reform of the CAP, hold down the level of farm-price support in the Community, restrain subsidised farm exports, and "seek a co-operative approach" to the prob-

lems of agricultural trade, particularly in sugar and dairy products.

Mr Hawke said he believed that some agreement by the Commission not to sell beef at a discount in Pacific markets might emerge from the detailed discussions to be held today by Mr John Kerr, the Australian Minister for Primary Industry, with Mr Frans Andriessen, the European Farm Commissioner, and Mr Willy de Clercq, the External Trade Commissioner.

The EEC is already facing a dispute with Canada over exports of beef from Europe's current surplus production, after the Canadian imposition of import quotas in December.

Mr Hawke told a meeting of the Centre for European Policy Studies in Brussels that subsidised exports from the EEC posed a threat to Australian markets in other parts of the world - markets which the Community itself had urged Australia to exploit.

"As Community policies have led it to emerge as the world's largest exporter of dairy products and beef, and a very large wheat and sugar

exporter, as well as a major source of subsidised wine, we face erosion of our hard-won market opportunities elsewhere, and severe hardship for our farming community," he said.

Mr Hawke warned of the "seemingly inexorable" growth of trade protectionism, and a "disturbing change" in its nature, with a shift from agreed rules to "arbitrary administrative regulation".

He called for a new round of multi-lateral trade negotiations to include priority for resolving outstanding issues, such as the special treatment of agriculture, tariff escalation against processed raw materials and barriers against the exports of the newly industrialised countries of the Pacific region.

Mr Hawke lies on to Washington tomorrow for talks which he said would include reconsideration of the question of U.S. MX missile tests in Australian waters.

Mr Hawke's visit to Washington tomorrow for talks which he said would include reconsideration of the question of U.S. MX missile tests in Australian waters.

## Volvo buys stake in Pharmacia

BY DAVID BROWN IN STOCKHOLM

VOLVO, the Swedish motor vehicle and industrial group, said yesterday that it had acquired a big shareholding in Pharmacia, the drugs and biotechnology concern.

Volvo is now Pharmacia's single largest shareholder, with 3.2m shares. That corresponds to 28.6 per cent of the voting rights and 6.4 per cent of the equity.

The motor group is understood to have paid more than SKr 650m (\$71.8m), a premium of about 10 per cent over the market price, to four entities associated with Pharmacia's original family owners. In Stockholm yesterday Volvo shares advanced SKr 18 to SKr 300, while Pharmacia shares rose by SKr 5 to SKr 223.

Volvo said yesterday that the acquisition was part of a long-term move into the sector. It planned further efforts to "expand the expertise of Swedish biotechnology, im-

prove co-ordination in the sector and strengthen its international competitiveness."

Volvo plans to invite other, unnamed companies to take over some of its Pharmacia shareholding as part of a sectoral "consortium".

Pointing to Volvo's existing interests in several Swedish concerns in this field, Mr Pehr Gyllenhammar, chairman, characterised the Pharmacia deal as a "natural step." Mr Erik Danielsson, Pharmacia's managing director, welcomed Volvo's entry as a "very positive" complement to his group's strategic planning.

The Pharmacia acquisition could open up several opportunities for co-operation in research, development and marketing with Volvo's existing holdings.

These include:

● A 34 per cent stake in Senesons (which in turn controls the Leo/

Ferrosan pharmaceutical company and the Gambro medical equipment group).

● A 22 per cent stake in the biotechnology and sugar company Carbo.

● At least 15 per cent in KabiGen, one of the world's leading producers of human growth hormone.

Pharmacia is expected to announce 1984 sales of about SKr 2.8bn and has forecast earnings of as much as SKr 640m. The group has had particular success in the ophthalmology, allergy and diagnostic fields, and is a leading manufacturer of separation equipment used in the biotechnology industry.

Despite a number of earlier attempts at diversification, the bulk of Volvo's SKr 1.5bn pre-tax earnings last year was generated by the car and truck divisions.

Lex, Page 16

## \$ continues to climb despite intervention

BY MAX WILKINSON, ECONOMICS CORRESPONDENT, IN LONDON

THE DOLLAR continued to climb to record levels yesterday in spite of moderate concerted intervention by European central banks.

Most of the dollar's progress was at the expense of the D-Mark. Sterling withstood the pressure relatively well, perhaps with some modest help from the Bank of England.

The dollar's surge to close at DM 3.212 in London, up 325 pfennigs from Friday's London close, continued progress started in New York on Friday. Dealers attributed it to the firming of U.S. interest rates and to the view that the budget measures announced by President Ronald Reagan yesterday would do little to cut the budget deficit in the near-term.

The dollar's Bank of England index against a trade-weighted basket of currencies closed in London at 148.1, up 0.9 per cent from Friday's closing figure. Although sterling lost 1.3 cents in London against the dollar, closing at \$1.114, it gained against the D-Mark so that the sterling index (against a trade-weighted basket of currencies) fell only 0.4 of a point to 71.3 in London.

Dealers said, however, that sterling might still be vulnerable to the dollar if there was any adverse news on the domestic monetary front, or evidence of a further weakening of oil prices.

London financial markets showed that they thought the dollar's strength made a cut in banks' base rates from the present 14 per cent less likely in the short term. Prices of equities and gilt-edged (government) stocks eased while the three-month interbank rate rose 1/4 of a point from Friday's level to just over 13 1/4 per cent.

Dr Fritz Leutwiler, former president of the Bank for International Settlements, the central bankers' bank in Basel, said that he believed that the dollar would remain "basically strong" although it might begin to decline this year.

The leading central banks appeared to be selling dollars in a concerted move yesterday as part of the recent agreement of the Group of Five industrial powers to act together against dollar speculation.

The West German Bundesbank caused a hectic flurry in the markets when it announced that it was intervening in support of the D-Mark.

Dealers said, however, that steady demand for dollars resumed when it became evident that the intervention was not intended to

Continued on Page 16  
Market worries 'exaggerated', Page 8; Lex, Page 16; Money markets, Page 37; Stock markets, Section III

## Record number of UK miners return

BY PHILIP BASSETT AND PETER RIDDELL IN LONDON

THE number of miners abandoning the UK coal strike yesterday rose to a record for any day since the dispute began. The National Coal Board (NCB) claimed that 2,316 men had returned to work.

This was more than 100 higher than the previous record in November. It followed last week's failure to re-establish talks between the board and the National Union of Mineworkers (NUM) to try to settle the dispute, now nearly 11 months old. The board claimed that 43 per cent of Britain's 187,000 miners were back at work.

Leaders of the NUM and of the opposition Labour Party tried yesterday to keep alive prospects of fresh negotiations. After a House of Commons debate on the strike, which had been demanded by Labour, Mr Neil Kinnock, the leader of the Opposition, urged "negotiations without preconditions in order to settle this dispute."

Mr Arthur Scargill, president of the NUM, claimed that a letter from the NCB had "given some encouragement to the union to believe that there is a possibility of negotiations with the coal board."

In response, the NCB warned against "raising false hopes" of talks and insisted that the NUM would have to indicate firmly in writing that it had shifted on the main issue of its opposition to pit closures on economic grounds before any negotiations could begin.

Senior NCB officials believe that Mr Scargill is trying to maintain the prospect of new talks to stem the drift back to work.

Continued on Page 16  
Returns to work and Commons debate, Page 8

## Bonn under attack as jobless total jumps to 2.61m

By Peter Bruce in Bonn

WEST GERMANY'S ruling centre-right coalition was bitterly criticised by the opposition Social Democrats (SPD) and Greens over its employment policies yesterday, after the Federal Labour Office in Nuremberg announced that total unemployment had climbed 12.7 per cent in January to a record 2.61m, or 10.8 per cent of the workforce.

SPD officials called the level "catastrophic" and claimed that at least a further 1m unemployed were not accounted for in the statistics. The Greens said the Government's optimism about economic growth this year was groundless.

The Government, for its part, blamed the weather. Herr Norbert Blum, the Labour Minister, said the freezing temperatures in January had affected a wide range of industries. Herr Martin Bangemann, the Economics Minister, described the rise as disappointing, but said it did not reflect badly on a basically healthy outlook for jobs. "No one is master over ice and snow," he said.

The January total is about 3.2 per cent higher than January 1984, - when the weather was mild - which lent some credence to the Government's arguments. Unemployment fell from 10.2 per cent in January last year to 9.4 per cent in December.

Herr Blum did, however, betray some signs of the Government's nervousness at the figures by urging employers to take on new employees rather than, as has been broadly the case until now, increasing overtime.

He also appealed to cities and local authorities to use what he called their "newly won financial muscle" to make long-term investments.

The Government has been insisting that capital investment in the country will increase rapidly this year, possibly even offsetting any fall in export earnings which, due to the strength of the dollar, against the D-Mark, kept the economy, and most important manufacturing industries, afloat last year.

Optimism about a flood of new investments is being increasingly questioned, however, with some economists and industrialists warning that industry may be over-exposed to the uncertainties of the foreign exchange markets.

Belgian unemployment rose to an unofficial record of 12.6 per cent of the labour force in January, according to Belga, the Belgian news agency. AP-D reports.

Environmentalists declare war, Page 2

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## EUROPEAN NEWS

## Decision on German N-plant prompts protest campaign

BY RUPERT CORNWELL IN BONN

WEST GERMANY'S powerful environmental and anti-nuclear movements last night declared an all-out campaign against plans for the country's first nuclear reprocessing plant at Wackersdorf close to the Czech frontier in eastern Bavaria, on which preliminary work will begin in a few months' time.

Almost a decade of controversy climaxed yesterday with the final decision by DWK, the company established by power utilities here to deal with atomic waste, to choose Wackersdorf as the site for the project, in preference to the other contender, Draguhn in Lower Saxony.

Following the go-ahead given by the cabinet here a fortnight ago, the move of DWK means the small group of nations, including France, Britain and the U.S., to have a domestic reprocessing capability.

## Solidarity issues warning on eve of IMF team visit

BY CHRISTOPHER BOBINSKI IN WARSAW

A LEADING Solidarity underground publication has warned that the movement will oppose any International Monetary Fund (IMF) programme for Poland that could lead to a clear drop in the standard of living.

The warning, in the Warsaw-based *Tygodnik Mazowiecki*, comes on the eve of a visit to Poland of an IMF team to discuss Poland's entry terms to the Fund following the lifting of the U.S. embargo on Poland's membership of the IMF.

Solidarity's comments stem from a policy paper circulated by Mr Zdzislaw Bujak, the underground leader, who says that the IMF should also demand independent unions in

## Swiss expect slowdown in economic growth

BY JOHN WICKS IN ZURICH

THE SWISS Government expects a slowing down of economic growth this year, with gross national product increasing by only some 1.7 per cent in real terms. That compares with an estimated 2.9 per cent rise during 1984.

The deceleration is seen as resulting from a general weakening in the world economy, as well as continued restraint in government spending.

Private consumption of goods and services should grow more slowly than last year but with expansion in real terms of an estimated 1.3 per cent it will still be a strong element in overall economic growth. Investment spending is seen as falling off in its growth rate despite a boost in equipment investments.

Higher production in 1985 is expected to improve the already satisfactory capacity-use performance

## Hersant bids for pay-TV channel

By David Housego in Paris

M ROBERT HERSANT, France's controversial right-wing press baron, yesterday made headlines by offering to take over the loss-making pay television venture, Canal Plus.

Canal Plus is 49 per cent owned by the state-controlled advertising agency, Havas, which announced on Friday a sharp drop in its net earnings for 1984 because of losses by Canal Plus. The unexpected performance precipitated a 13 per cent slump in its share price which fell to FFf 620.

M Hersant's offer yesterday was calculated to cause the Government maximum consternation and emphasise his ambition to expand into private television.

The offer is, none the less, in line with his announcement last month of an ambitious project for a national private television chain called TVE (Teleurop) which he hopes will start broadcasting next year. The project is planned to take advantage of the liberalisation of broadcasting promised by President Francois Mitterrand.

Havas yesterday made clear that in spite of Canal Plus's losses of about FFf 500m last year, the channel was not up for sale. In addition to Havas state-owned institutions including banks hold another 18 per cent of the shares.

Canal Plus was launched last winter as a pay-television venture in competition with the three national channels. It has suffered from dissatisfaction with the quality of its programmes and the belief that it will be undermined by the opening up of television competition from private stations.

M Hersant's bid is given a further political favour by the fact that M Andre Rousselet, the head of Havas, is a close friend of President Mitterrand and was at one time the director of his personal staff at the Elysee. As head of Havas, M Rousselet was worried in an earlier tussle with M Hersant when he failed in an attempt to purchase France Soir, the Paris evening daily, from the Hersant group.

## UN appeal on torture

GENEVA - The United Nations Human Rights Commission was urged by Mr Peter Kooijmans, its outgoing chairman, yesterday to set up a system to monitor use of torture against prisoners.

He told the opening meeting of the commission's 1985 session that torture remained a daily occurrence, despite a convention to ban it adopted by the UN General Assembly in December.

It would be some time before the UN convention against torture came into effect. In the meantime the commission should consider setting up machinery by which it would be informed of acts of torture and could recommend ways of combating it.

## Spain to press issue of Rock sovereignty

BY ROBERT MAUTHNER, DIPLOMATIC CORRESPONDENT, IN GENEVA

BRITAIN and Spain will set the stage here today for detailed negotiations on Gibraltar in spite of continuing disagreement over the long-term future of the partly self-governing colony.

Though the British delegation, led by Sir Geoffrey Howe, the Foreign Secretary, will put the emphasis on the practical problems which need to be solved after the opening of the border between the Rock and Spain last night, Spain is expected to raise the issue of sovereignty straight away.

Sr Fernando Moran, the Spanish Foreign Minister, who will face Sir Geoffrey across the Geneva conference table, has gone out of his way to take the heat out of the sovereignty issue by his acceptance that this can be settled only in the very long term.

At the same time, Sr Moran has made it clear that, however long it may take, Spain's

GIBRALTAR'S population is overwhelmingly opposed to any discussion of sovereignty in the series of talks which Britain and Spain starts today in Geneva, according to an opinion poll, writes David White in Gibraltar.

The poll, published in the local weekly *Panorama* in coincidence with the opening of the Spanish-Gibraltar border to road traffic at midnight, showed 94 per cent against discussing Britain's sovereignty over the Rock. Only 4 per cent were in favour.

ultimate objective is to regain sovereignty over Gibraltar, which it ceded to Britain in 1713, under the Treaty of Utrecht.

In a British television interview broadcast 48 hours before the Geneva talks opened, Sr Moran spelled out his govern-

ment's ideas on the subject in slightly more detail than hitherto.

Spain was seeking to sign a treaty with Britain which would "reintegrate" Gibraltar with Spain, while preserving the Gibraltarians' way of life.

This could mean that Spain would accept a certain amount of self-government by Gibraltar after a transfer of sovereignty.

Gibraltar was being increasingly told by the UK, he said, at a press conference, that it must make its own way. "We accept the challenge to stand on our own feet but we feel we should then assume our own political responsibilities."

However, Mr Bossano, who is considered the most likely successor to the present Chief Minister, the 68-year-old Sir Joshua Hassan, added that Gibraltar could never be totally independent running its own defence and foreign affairs.

One of the main problems on the table today is in what form the sovereignty issue will be discussed in the coming months. Sir Geoffrey Howe has fully committed Britain to talks on sovereignty in the Brussels agreement.

sovereignty is an irrelevance at this juncture.

The British Government is firmly committed, under the preamble of the Gibraltar constitution of 1989 and the Brussels agreement of November last year, to respect the wishes of the people of Gibraltar on sovereignty. Both Sir Joshua and, in even stronger terms, Mr Joe Bossano, the Gibraltar Socialist Opposition leader, have stated that they would not accept Spanish sovereignty.

But the Foreign Secretary wants only Sr Moran and his advisers to discuss this question, while his Spanish colleague is expected to propose the creation of a special committee on the subject.

## Management changes in the wind at Airbus

By David Marsh in Paris

PROSPECTS FOR a change of management style at Airbus Industrie increased yesterday as one of the venture's share-

holders confirmed that more financial controls were needed. M Bernard Lathiere from France, chairman for the past 10 years, has just stepped down.

M Roger Betteille, the general manager who is himself retiring soon on medical grounds, was named on Friday to succeed him on an interim basis.

Appointment of a long-term successor, expected to be M Jean Pierson of the French Aerospace Services group, has not yet been finally decided.

More attention, however, is focussing on other possible management changes under which financial controls over the consortium would be tightened up.

A key executive of one of Airbus's shareholders said yesterday that changes were needed in the essentially marketing-oriented structure at Airbus simply to take account of the much greater role of financial aspects in airline sales compared with when the consortium was set up in 1970.

Battle for the order, Page 5; Feature, Page 14

## Yalta legacy draws praise—and blame

BY DAVID BUCHAN, EAST EUROPE CORRESPONDENT

The 40th anniversary yesterday of the start of the Yalta conference which set the post-war political order in Europe was marked by Soviet bloc praise for the Yalta agreements and denunciation of them by groups in the West.

Mr Vladimir Lomeiko, the Soviet Foreign Ministry spokesman, told a news conference in Moscow that Yalta had laid the ground for 40 years of peaceful co-existence. He criticised "certain circles in the U.S. and other Nato countries" who tried

to depict Yalta as leading to the split of Europe.

"In fact, such a split was created by the activities of the Western powers which united three zones (of occupied Germany) as a separate status and dragged it into the aggressive Nato bloc," he claimed, adding that with Pershing missile deployment in West Germany, "the threat to peace is again beginning to come from German soil."

At the same time, President Erich Honecker of East Germany has given his most pessimistic assessment of intra-German relations since Soviet pressure forced cancellation of his trip to West Germany last September. In a speech last Friday, he said Bonn had made "good neighbourly relations virtually impossible."

Soviet bloc attacks on Bonn for its alleged "revanchism" are expected to intensify up to the 40th anniversary celebrations in Moscow on May 9 of the defeat of Nazi Germany.

Mr Lomeiko made clear the two anniversaries are linked in the Soviet mind when yesterday he claimed that the views of

those who criticised Yalta coincide, surprisingly, and perhaps tragically for history, with those who at the time were trying to justify Hitler and his plans for waging war.

However, at an anti-Yalta rally in London last night, Mr Winston Churchill, the Conservative MP and grandson of the British wartime leader, who attended Yalta, denounced Stalin's betrayal of his promise to allow free and democratic elections in Poland. "Six years of Nazi occupation have given way to 40 years of Soviet occupation," he said.

## EEC-wide fury over farm plans

BY IVO DAWNAY IN BRUSSELS

THE European Commission has once again united the widely diverging interests of the Community's farm lobbies in opposition to its plans.

The chorus of fury over Mr Frans Andriessen's farm price proposals could be heard from northernmost Denmark to the furthest Greek isle.

By penalising the northern cereals growers with a 3.6 per cent price cut, and at the same time threatening to reduce some

Mediterranean fruit prices by up to 6 per cent, Mr Andriessen's package has something for everyone to hate.

The FNSEA, the largest French farmers' union, has described the proposals as "scandalous". Their usually less than sympathetic British colleagues at the National Farmers' Union prefer "totally inadequate," declaring the beef provisions "perverse."

To the West Germans, it is

"intolerable," while the Italian and Greek responses are said to be either unprintable or untranslatable.

So far most member governments have chosen to hold their fire, awaiting instead an accurate measure of their farm lobbies' rumblings before approving the issuing of their condemnations. However, Herr Ignaz Kiechle, the West German minister, has sworn to fight the price cuts.

## Dissidents jailed in Yugoslavia

By Aleksandar Lebl in Belgrade

THREE OF the six Yugoslavs originally accused of conspiring to overthrow the regime were yesterday jailed for terms of between one and two years on lesser charges of spreading anti-state propaganda.

Mr Miodrag Milic, a script-writer, received a two-year sentence. Mr Milan Nikolic, a sociologist, and Mr Dragomir Djulic, a radio technician, received sentences of 18 months and one year respectively.

The case of the "Belgrade Six" was widely considered the most important political trial brought by the authorities in recent years, when the six were put in the dock last November.

But all charges were later withdrawn against one defendant, Mr Pavlosko. Insubordinate and the charge against the three sentenced yesterday was reduced from one of subversion to that of hostile propaganda.

The original charges still stand against Mr Vladimir Mijanovic, a sociologist, and Mr Gordana Jovanovic, a philosophy student, and their trial is due to resume at a later date.

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## Disarmament talks resume amid optimism for progress on chemical weapons ban

GENEVA - A 40-nation disarmament conference resumes today with Western diplomats optimistic of progress on a chemical weapons ban treaty and a generally more fruitful session in the light of forthcoming U.S.-Soviet arms control talks.

The conference, an autonomous body linked to the United Nations, brings together the five nuclear powers - the U.S., the Soviet Union, Britain, France and China - allies from both main political blocs and 21 non-aligned states.

Last year's session took place at a time of frosty relations between the superpowers after the suspension in late 1983 of U.S.-Soviet talks on

medium and long-range nuclear missiles.

Now that missile negotiations are set to resume in March, Western diplomats are hoping for a more dynamic session of the disarmament conference.

"Almost everybody is optimistic that the climate will now be better and that there will be more progress on chemical arms," said Mr Donald Howitz, the chief U.S. delegate.

Mr Howitz said U.S. Arms Control and Disarmament Agency director Kenneth Adelman would address the session on February 12. Negotiations on chemical arms, that have been held in different

forms for 16 years, got bogged down over a draft treaty tabled last April by Mr George Bush, the U.S. vice-president.

The draft called for a ban on the possession, storage, production or export of chemical arms. It also proposed that governments should be obliged to open for international inspection state-run or state-controlled chemical facilities where there was suspicion that the treaty was being violated.

Moscow rejected the idea, saying it was intrusive and that it discriminated against the Soviet bloc, which would have to open all chemical plants to inspection while private Western sites would be exempt.

Hardly any progress was made on other items the conference is dealing with such as the prevention of an arms race in outer space, a nuclear test ban or a ban on radiological weapons - arms that can kill by dispersing radioactive materials without a nuclear explosion.

Mr Howitz was named last month by President Ronald Reagan to succeed Louis G. Barks, who retired after serving for three years.

Opening day speakers are scheduled to include Victor L. Israelyan, the veteran chief Soviet representative, whose return to Geneva last week disproved widespread rumours that he was being reassigned.

## Harmless?

Most people would automatically guess that the pictured snake is poisonous. A few might know that, in fact, it is the *Lampropeltis getula* genus californicae and completely harmless.

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## EUROPEAN NEWS

Paul Betts looks at the French Communists on the eve of a critical party congress

## The pressures build up from below

**"THE FORTRESS** is under siege and for the first time the walls are beginning to crack." This remark, dropped casually by a French Communist voter in a conversation the other day, sums up in a nutshell why the French Communist Party's 25th Congress tomorrow will be like no other congress in the party's history.

For the first time, the leadership's draft resolution—usually sacrosanct text which outlines the party's policy—will not win universal approval. Discussion is also likely to be more heated than in the past with the leadership itself coming under fire from some of the party's more outspoken members.

Already three out of 85 Communist regional federations in France have rejected the document and others have expressed profound misgivings and put forward major amendments. The party leadership itself acknowledges that about 10 per cent of its members will vote against the draft resolution.

Others say the rate of opposition to the document could be as high as 20 per cent or even 30 per cent.

For any other party a majority of 70 per cent or 80 per cent, let alone one of 90 per cent, would represent a landslide. For the Communists it would be a setback. It would eloquently confirm the deep internal conflict and identity crisis of the party.

The party has been struggling to halt its steady electoral decline which has seen it drop from more than 30 per cent of the popular vote to barely 10 per cent in the European elections last June.

After the European elections, it pulled out of the French left-wing governing coalition with the Socialists, blaming the alliance for its troubles. Since

The majority of voters believe the French Communist Party is in a phase of "inevitable decline," according to a public opinion poll published yesterday. The poll, on the

withdrawing from the government, the Communists have increasingly attacked Socialist policies voting against the 1985 budget and more recently against the extension of the state of emergency in New Caledonia. For its part, the pro-Communist CGT labour confederation has also hardened its approach to industrial restructuring.

The hardline Communist Party leadership has also sought to alienate the moderates or "renovators" inside the party who still argue in favour of

maintaining a so-called union of the left in France and of Communist participation in government. In the process, M Georges Marchais, the Communist secretary-general, has been striving to save his job at the top of the party.

At first, it seemed the hardliners had regained full control of the party and successfully silenced its internal critics. But as the party congress has approached, the critics have resurfaced in far greater numbers and voice than the leadership had anticipated. M Pierre

Juquin, the former spokesman of the party and a leader of the "renovators," wrote an article in L'Humanité, the Communist daily newspaper, claiming that the party was losing its identity and credibility.

M Juquin is likely to be punished at the Congress by being removed from the party's political bureau. But he is not alone to openly challenge the leadership. M Marcel Rigout, the former Communist minister, has also called for changes in policy and advocated the need for a continuing union of the left in France. The moderate minority in the party fear that unless the party evolves more along the lines of the Italian Communists, who are willing to adopt more Social Democratic policies, it risks disappearing in its own political ghetto.

Although M Marchais appears so far to have saved his job as secretary general, his power and influence have been greatly diluted in recent months. Indeed, the Congress is expected to decide to flank for the first time, the secretary general with two influential deputies, thus preparing for the eventual succession at the top.

The degree and openness of debate at the Congress next week will have a telling impact on the future of the party. At this stage, the hardliners and the leadership are expected to try to stifle and discourage criticism by the "renovators" as much as possible—even to the point of suggesting that there is little if any room for them inside the party. But it might turn out to be a pyrrhic victory for the traditional hardliners, especially if the party fails to halt its electoral decline in the French local elections next March.

## Junior party crisis shakes Portugal's coalition government

BY DIANA SMITH IN LISBON

A CRISIS erupted in Portugal's Social Democrat Party (PSD), the junior partner in the ruling centre-left coalition. As a result, the coalition's future could be in jeopardy.

The PSD leader, Prof Carlos Mota Pinto, who is Deputy Prime Minister in Sr Mario Soares' government, narrowly escaped defeat at the weekend on a motion of confidence demanded from the party's national council, the body responsible for party decisions between congresses.

Irritated by criticism of his leadership and of efforts to promote a military candidate for this year's presidential election, Prof Mota Pinto, who is also Defence Minister, stormed out of the council after demanding an "unequivocal and clear" expression of support for his continuation as leader.

He scraped through the ensuing motion of confidence with 38 votes in his favour and 36 against. Next Saturday at another council meeting, Prof Mota Pinto will announce whether he considers this a sufficiently clear expression of support for him to remain leader.

The PSD's latest bout of tilting at its own leaders—a ritual the party has practised more than any other Portuguese group since its foundation in 1974—comes at an especially tricky time.

Bent on promoting his own political party, President Antonio Ramalho Eanes, who has made clear his distaste for the unsettled ways of Portuguese politicians, seems to be looking for a strong excuse to dissolve Parliament and call a snap general election where his new party could compete. The constitution bars a President from making a move unless a fully blown political crisis causes the breakdown of government and threatens democratic institutions.

Until the PSD's internal temperature shot up at the weekend, threatening a rift in the Government if Prof Mota Pinto feels unable to carry on, such a crisis seemed unlikely. Sr Soares has been intent on



Prof Carlos Mota Pinto: narrow victory

ensuring government stability and leaving no loopholes through which the presidential strategy might slip. He may be thwarted by a party which has not shared the desire for stability displayed by Sr Soares' Socialists.

In 1981, the PSD drove their then leader and Prime Minister, Sr Francisco Balsemão, to resign in the face of hostility to his leadership. He returned later to office but resigned again in 1982 when his party colleagues made it impossible for him to continue.

His Finance Minister, Sr João Salgueiro, who has lately risen high in the PSD, declared after Prof Mota Pinto's narrow weekend victory that he is ready to take over the party leadership and continue in the coalition, albeit with a major Government reshuffle.

Under Sr Balsemão and Sir Salgueiro Portugal's balance of payments of deficit soared to \$3.2bn, provoking the economic drama that forced Sr Soares to declare and impose fierce austerity in 1983-84. It is unlikely that Sr Soares would find the former Finance Minister a congenial government partner.

## Kyprianou looks for comfort in Athens

By Andriana Ierodiconou in Nicosia

**THE CYPRUS** President, Mr Spyros Kyprianou, who is facing acute criticism from both the Communist and right-wing opposition at home for the collapse of last month's settlement talks in New York with Mr Rauf Denktaş, the Turkish Cypriot leader, is flying to Athens today to brief the Greek Government on what went wrong.

Turkey blamed the Greek Cypriots for the breakdown, fully backing Mr Denktaş, and Mr Kyprianou is expecting the same sort of reinforcement for his stance from Greece.

Mr Denktaş left New York insisting that Sr Javier Peres de Cuellar, the United Nations Secretary-General, had called the summit meeting purely for the two sides to sign a preliminary settlement document drafted in November, after three months of ineffectual negotiations.

He maintained that substantive negotiations were supposed to take place to fill in important blanks in the document before signature.

Back in Nicosia, the Cypriot President has been attacked for "not compromising in New York" by the two main opposition parties—the pro-Moscow Communist AKEL, and the pro-U.S. Democratic Rally, which

between them account for about 85 per cent of the electorate. But the Soviet Union and the U.S. are backing UN efforts to achieve a federal settlement in Cyprus, which would end the 10-year occupation of the northern third of the island by Turkish troops.

Washington is interested in minimising resistance from the so-called Greek lobby in Congress to increased military aid for Turkey, while Moscow wants to scotch any possibility of a permanent partition of the strategic island between Greece and Turkey, two NATO members.

Mr Kyprianou, whose own Democratic Party represents only 18 per cent of the vote, dissolved a coalition with AKEL before going to New York. At the end of last week he sought to form a new alliance with the Rally, but this was rejected by Mr Glafkos Clerides, the party's leader, who called instead for early presidential elections.

Senior aides to the President suggested in Nicosia yesterday that he would try to ride out the political storm, meanwhile working with the UN for another meeting with Mr Denktaş, possibly in mid-March. The backing of Athens for this course of action would be a helpful boost.

## Naples gangland trial opens in prison court

BY JAMES BUXTON IN ROME

**WHAT IS BEING** called the biggest trial in Italian history lumbered into motion in Naples yesterday in a courtroom that, for security reasons, has been constructed inside a prison. The trial is of 639 alleged members and associates of the Camorra, the Naples version of the Sicilian Mafia. Those on trial were arrested in a vast round-up in June 1983.

They are accused of a range of offences connected with the Camorra's two main activities—the trafficking of drugs and the extortion of protection money from businesses.

Yesterday, 158 accused appeared in 20 cages inside the vast courtroom in the Poggioreale prison.

But some of the more notable figures on trial were not in

All are said to be connected with an organisation within the Camorra called the Nuova Camorra Organizzata which is led by Raffaele Cutolo who is in prison on an island off Sardinia. The authorities claim that Sig Cutolo's organisation has been routed, though the other branches of the Camorra continue to operate in the Naples area.

Yesterday, 158 accused appeared in 20 cages inside the vast courtroom in the Poggioreale prison.

But some of the more notable figures on trial were not in

court yesterday. They include the former chairman of the Avellino First Division Football Club, who is ill, and Sig Enzo Tortora, one of Italy's leading television presenters.

The latter, who is alleged to have been involved in the sale of drugs to show business people, is to appear in court later this month. He has vigorously protested his innocence of all charges and obtained freedom from prison last year when he was elected to the European Parliament.

This gave him parliamentary immunity. Since then, he has campaigned against what he

regards as the iniquities of the Italian judicial system.

The charges which the accused face are based on evidence given by a number of Camorra members who decided to turn state's evidence. Among these is Pasquale Barra, formerly a close associate of Sig Cutolo, whose terrifying nickname is "o animale"—the Animal.

Like the other Camorra members who are co-operating with the authorities, he is under the closest possible protection. An army of policemen and Carabinieri is guarding the prison and surroundings.

The Grimaldi family which owns the cafe are attempting to appeal against the action of the Guardia di Finanza and they insist that their establishment is fully up to date with all its tax payments. Three other important bars were closed down at the same time for similar offences.

The incident is a vivid demonstration of the severity with which Italian officials apply laws whose provisions themselves are very severe. The tax authorities argue that nothing short of exemplary and draconian measures will make an Italian businessman pay his taxes.

## Rome's oldest cafe falls foul of the taxman

BY OUR ROME CORRESPONDENT

**THE OWNERS** of the oldest and most famous cafe in the city, the Café Greco, in Via Condotti, have been hit by a taxman's demand that they should install electronic cash registers which record all transactions on a magnetic tape for the benefit of the tax man.

The law was introduced in order to prevent the tax evasion by shopkeepers which is, by common consent, rampant.

The proprietors of the Café Greco—which featured in the memoirs of the 18th-century philosopher, Cesareo—admit that they did not have the machine working on time.

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## OVERSEAS NEWS

### South Korea will not jail returning dissident

BY STEVEN B. BUTLER IN SEOUL

SOUTH KOREA yesterday said that Mr Kim Dae-jung, Korea's leading opposition politician, would not be returned to prison when he arrives home later this week, ending months of international speculation, although it is believed likely Mr Kim may be subject to some form of house arrest.

The announcement of the Government's more lenient policy towards Mr Kim comes just two days after Mr Ronald Reagan, the U.S. President, issued a formal invitation to Mr Chun Doo-hwan, the Korean leader to visit the U.S. in April.

Diplomats in Seoul discount the possibility that an explicit deal was arranged between the two Governments—trading Mr Kim's freedom for the invitation to Mr Chun. But the U.S. is known to have raised the issues of Mr Kim's return in private discussions with Korean officials, and a delay in issuing the President's invitation may have put further pressure on the Korean Government to moderate its stance.

Mr Kim Dae-jung (right) yesterday welcomed the South Korean statement as "the beginning of a reasonable attitude," reports Reuter from Washington, but called for an amnesty for political prisoners. Mr Kim noted there was no mention on "whether I can avoid house arrest or surveillance, which would deprive me of freedom," and called on the Government to "restore full political freedom of all present and past political prisoners and banned politicians" to lay "the foundations for genuine political dialogue."

According to a diplomat "Mr Chun knows that if there are severe political difficulties in Korea at the time of the visit, it could spell the trip and make things very difficult for him personally," the American said. Mr Kim nearly defeated Mr Park Chung-hee the former South Korean President, in an



election in 1981. After President Park's assassination in October 1979 Mr Kim was once again a serious contender for the presidency. He was arrested in May 1980 having been in and out of prison when Mr Chun Doo-hwan, then a two-star general in the army, came to power in a military coup.

Mr Kim was first sentenced to death for sedition. The sentence was later commuted to 20 years in prison, a decision that is believed to have earned Mr Kim, who had become president, an invitation to visit the U.S. in 1981.

Mr Kim was allowed to go to the U.S. in December 1982 to seek medical treatment, after serving two and a half years of the sentence.

The Korean Government had been quietly negotiating with Mr Kim up until December, trying to encourage them to return to Korea after the national assembly election on February 12.

Coming just ten days before national assembly elections and

just a week before Mr Kim's return, the invitation by President Reagan to Mr Chun is regarded as a strong statement of confidence in and support for the Korean Government.

The U.S. has a major military presence in South Korea which it regards as pivotal to the defence of Western interests in Asia.

News of Mr Kim's return now scheduled for Friday morning, has not appeared in the Korean media, and Koreans generally are unaware of his plans.

Mr Kim's supporters, however, have organised a welcoming committee chaired by Mr Kim Young-sam, another prominent dissident leader. Hundreds of people are expected to try to greet Mr Kim at the airport when he arrives although Korean police may take steps to prevent it. He will be accompanied on his flight to South Korea by about 20 prominent Americans, including three Congressmen who say they want to ensure his safety.

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### Lebanese pound tumbles

By Richard Johns in Beirut

THE LEBANESE pound tumbled yesterday to a range of 13.15 to 15.20 to the dollar, substantially below the previous record low of 13.30 reached at the close of trading on Saturday.

Dr Edmond Naim, governor of the central bank, met his deputies and senior officials to discuss how to slow the decline in the currency's value.

Recommendations made by the bankers' association on January 25 - when the present crisis started as the rate rose above 12 pounds to the dollar - are understood to have been approved at a long Cabinet session on Sunday.

The bankers' association has proposed a tightening of credit and much closer surveillance of advances to ensure that loans are not used for speculation in the currency.

### China's press in campaign against harassment

BY MARK BAKER IN PEKING

CHINA'S government-controlled press and broadcasting has begun a bold campaign for greater freedom and legal protection following a series of attacks on journalists.

Leading newspapers including the party mouthpiece, People's Daily, Radio Peking and the national television network have joined the campaign after a newspaper photographer was beaten by security guards last week.

The photographer, Zhai Wei, from the popular Peking Evening News, was set upon by six guards after he cut to the aid of a woman who had fainted in the snow outside an exhibition hall in the western suburbs of Peking.

Zhai had run to a nearby hotel to summon a taxi to take the unconscious woman to hospital, but the guards refused to allow it through the gate. When Zhai tried to take photographs, the guards jumped on him, dragged him into a gatehouse, twisted his arms and neck and confiscated his camera, according to a report in the English-language China Daily.

Later Zhai's editor went to the scene to protest. While the guards returned the camera they accused Zhai of being a

"phony reporter" or a newsman "seeking personal gains." The Evening News carried the story on its front page last Thursday. Since then, the case has received extensive coverage in several other leading newspapers, on radio and television and has become a rallying point for Chinese journalists who claim to be the victims of an increasingly level of harassment.

Three of the security guards involved in the attack have now been dismissed and the others have had pay and bonuses cut. The Bank of China has given its Shenzhen Special Economic Zone branch the authority to set up joint ventures with foreign banks and to fix interest rates, the official Xinhua news agency reported yesterday. AP-DJ reports from Peking.

The Portuguese Governor of Macao arrived in Peking yesterday for economic cooperation talks and disclaimed any intention of discussing the territory's long-term future, Reuter reports. The visit of Rear-Admiral Vasco Almeida e Costa comes less than two months after Britain signed an agreement to return Hong Kong, Macao's big, economically powerful south China neighbour, to Peking.

### Israeli soldier shot dead on West Bank

Gusman killed an Israeli soldier guarding a government building today in a

violence that has rocked the occupied West Bank in recent weeks, security sources said. Reuter reports from Tel Aviv. The sources said the soldier, a reservist, was guarding a government building in El-Bireh, north of Jerusalem.

A Greek tanker hit by a missile in the Gulf yesterday and serious damage to the engine-room had put the vessel out of control, the Greek Merchant Marine Ministry said, Reuter reports from Athens. A spokesman said the tanker, named *Faith*, was hit south of Iran's Kharg Island.

The U.S. has refused a request to change the warship it wants to send to New Zealand in order to comply with New Zealand's anti-nuclear policy, Dai Hayward reports from Wellington. The American response to the proposal was received in Wellington on Sunday.

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## Marcos fails to check Communist resurgence

BY EMILIA TAGAZA IN MANILA

A LARGE group of armed men, mostly in their twenties, recently raided and occupied the police station and town hall of a remote fishing village in Zamboanga del Sur province in the southern Philippines. There was no scuffle. They calmly collected firearms, thousands of rounds of ammunition, radio sets and typewriters. The villagers were unharmed, some even discreetly acknowledged the young men.

The raiders were guerrillas of the New People's Army (NPA), military arm of the outlawed Communist Party of the Philippines (CPP), who have been conducting similar raids in order to increase their arsenal and communications network. The villagers did not fear them, for the NPA operates—in the few remote areas where they have set up parallel governments—Robin Hood style. Government and military personnel who have fallen foul of the peasants are executed, free medical services offered, and "taxes" are collected from large logging, mining and agricultural estates.

The growing influence of the Communists is undoubtedly the biggest threat to Philippines security. Claiming a membership of about 30,000 and mass support of several millions, they are the only growing insurgency movement in Southeast Asia. The Philippines' allies, particularly the U.S. and the Association of Southeast Asian Nations (Asean), are becoming increasingly nervous and are making their concerns known to Manila quite bluntly.

Government estimates and the NPA's own claims give a rough idea of the insurgents' armed strength. The NPA said it has 20,000 full- or part-time guerrillas operating in 50 out of the country's provinces. The Government said there are no more than 10,000 armed NPA members. Whichever figure is closer to reality, it is still small in a country of more than 50m. Nevertheless, it represents an impressive growth from the 100-odd ideologues led by Dr Jose Maria Sison, who took to the hills in 1968 to initiate a protracted guerrilla struggle.

An indication of the insurgent strength is that NPA units in company strength of up to 100 men regularly attack detachments of government forces or privately-defended estates of big businessmen. The Government admits that last year almost 1,000 military per-

sonnel and 1,000 civilians were killed in clashes with the NPA. The rebels lost about 1,000 men. The growing menace has not been lost on friendly governments and foreign investors who have stakes in keeping stable government in the Philippines. The U.S. is particularly concerned for the Philippines is host to two of the superpower's largest bases outside the U.S. mainland. The U.S. does not want to lose these bases as it could radically shift the strategic balance to the Pacific region.

Foreign Minister Arturo Tolentino has disclosed that the

The Communist rebels are the only growing insurgency movement in South-East Asia. The Philippines' allies are becoming increasingly nervous and are making their concern known to Manila quite bluntly.

U.S. may increase its military assistance to the Philippines in addition to the \$900m five-year assistance package, or "rent," provided by the military bases agreement, in order to help counter insurgency. The increase is possible, but the kind of assistance I see is not in the form of arms but perhaps in the form of advisers for training men and for the improvement of equipment. Mr Tolentino said. Military experts have been quick to comment that the training could involve the handing of arms and equipment to be used against the Communists.

The U.S. concern has been echoed by Asean, which is most disturbed by any prospect, however faint, of both the loss of the bases and the emergence of another Communist nation on its doorstep. In an unprecedented move, Mr Lee Kuan Yew, Singapore's Prime Minister, invited Mr Cesar Virata, the Philippines Prime Minister, and Mr Juan Ponce Enrile, the Defence Minister, to a meeting in Singapore with senior Asean ministers.

A new cause for concern is the Communist Party's threat to

enter the mainstream of Philippine politics. In a recent interview which Government-influenced newspapers tried to play down, Mr Sison called for a general coalition between the party and legal opposition groups in order to bring down the Government of President Ferdinand Marcos. Mr Sison has been detained since 1977 but has demonstrated an extraordinary ability to continue to speak for the party on policy issues. Mr Sison proposed that the coalition field candidates in the local and presidential elections scheduled for next year and 1987.

The motivations of the party in deciding to participate in the elections is clear and the party boasts it is in a "no-lose" situation. It argues that following the assassination of opposition leader Benigno Aquino in August 1983, President Marcos has become alienated from the middle class, who are essential to the viability of his Government. Mr Aquino was shot moments after being taken into military custody upon his arrival from a three-year self-exile in the U.S. The outrage caused by the assassination resulted in massive anti-Government demonstrations and a serious loss of political and economic confidence in his Government.

The volatile political atmosphere set off the capital flight which caused the current economic crisis. The Philippines had to re-schedule some of its \$25.6bn external debt, and the economy went into a tailspin, contracting by 5.5 per cent last year, the worst post-war performance and spawning more Communist sympathisers.

Mr Marcos survived the storm but is ill and has been unable to regain the political initiative. There is now frantic manoeuvring for position both within his ruling party and within the opposition in anticipation of his departure from office.

Judging the opposition to be ineffective, the Communists see advantages in gaining a foothold in a weak government which it might quickly dominate and control.

Mr Marcos used the issue of the "Red Threat" to justify the declaration of martial law in 1972, under which he acquired tremendous powers. He vowed to eradicate the Communist menace. As he is entering the twilight of his power, he sees instead their continued growth.

### Jayawardene warns Tamil terrorists

BY MERVYN DE SILVA IN COLOMBO AND ALAIN CASS IN LONDON

THE RISK of island-wide confrontation between Sri Lanka's Tamil minority and the Sinhalese-dominated Government grew yesterday following a hard-line speech by President Junius Jayawardene.

It was also confirmed that Sri Lanka is negotiating to try fast gunboats in its escalating war against Tamil terrorists.

In his Independence Day message yesterday, President Jayawardene said the Government would "eradicate the terrorist menace" so that all communities could live in peace, equality and harmony. "We shall overcome," he said, declaring his readiness for dialogue on the ethnic or any other issue.

However, the Ceylon Workers Congress (CWC) whose leader, Mr S. Thondaman, is a Cabinet Minister, charged the Government of trying "to impose its will on the Tamil minority through a harsh military operation." The CWC controls Indian Tamil labour in the economically vital plantation sector. It also denounced the Government's latest plan to introduce Sinhalese settlers to the predominantly Tamil, violence-torn areas of the north.

The CWC's frontal attack has not only raised doubts about Mr Thondaman's future as a minister but the possibility of a political alliance between the Indian Tamil community of the Central Province and the Tamils of the north. The CWC criticised the Government's present stand of not negotiating with the Tamil main Tamil party, unless it publicly renounced separatism.

This, in turn, raises pressure on the Indian Government, with its own Tamil unionists, to intervene. The Government argues that the ethnic issue is

an "internal matter" on which it will not negotiate with "outsiders." The CWC has asked it to seek India's "good offices." Mr Thondaman returned from Delhi recently where he met the Indian Prime Minister, Mr Rajiv Gandhi, who last week described the Sri Lankan situation as "terrible."

The CWC says its activists are being "harassed, arrested and victimised" by estate managers and police. Any unrest in the plantations can do enormous damage to the island's economic and aid prospects. Last year, Mr Ronnie de Mel, the Finance Minister, based Sri Lanka's case before its aid group on the promise of a "political settlement" by December and the certainty of a balance of payments surplus of \$200m because of high tea prices. Last week Mr de Mel and two senior colleagues visited western capitals to explain to donors the reasons for the collapse of the all-party conference on the Tamil problem.

Cougar Holdings, a Southampton-based company, which manufactures fast patrol boats, confirmed yesterday that the Sri Lankan army was testing a "prototype" craft. If the trials prove satisfactory, the company said, it may be asked to quote for further craft.

Sri Lanka has been discussing the purchase of military equipment with several companies around the world since its war against Tamil guerrillas took a serious turn last year.

Cougar Holdings would not comment on a Sri Lankan newspaper report that up to ten of the patrol vessels may be needed. Sri Lanka has recently sharply increased its defence spending in an all-out effort to defeat the terrorists.

### Notice of Redemption

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Issued under Indenture dated as of March 15, 1971 with Citibank, N.A.

NOTICE IS HEREBY GIVEN that Ford International Capital Corporation has called for redemption all its outstanding 6% Convertible Guaranteed Debentures due March 15, 1986 (the "Debentures"), to be redeemed on March 7, 1985 at a redemption price of 100% of their principal amount together with interest accrued to the date fixed for redemption.

The Debentures are to be redeemed at the Brokerage Services Department of Citibank, N.A., 111 Wall Street—5th Floor, New York, New York 10043, and the main offices of Citibank, N.A. in Amsterdam, Brussels, Frankfurt/Main, London (Citibank House), Milan or Paris, or the office of Kreditbank S.A., Luxembourg in Luxembourg, as the Company's Paying Agents, and will become due and payable on March 7, 1985 at the redemption price. On and after such date, interest on the Debentures will cease to accrue.

The Debentures should be presented and surrendered at the offices set forth in the preceding paragraph on the redemption date with all interest coupons maturing subsequent to the redemption date. If such coupons are not attached, payment will be made only upon the delivery to the Paying Agent of funds in the amount of the unredeemed missing coupons.

The Debentures are convertible into Common Stock of Ford Motor Company at the adjusted conversion rate of 29.71 shares of such Common Stock for each \$1,000 principal amount of Debentures. The right to convert the Debentures will expire on March 7, 1985.

FORD INTERNATIONAL CAPITAL CORPORATION

Dated: February 5, 1985

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## WORLD TRADE NEWS

# W. Germany pushes China for clearer trade directives

BY RUPERT CORNWELL IN BONN

HERR MARTIN BANGEMANN, West German Economics Minister yesterday issued a sharp call to the Chinese to give better explanations of their domestic market needs to West German companies seeking business there.

His plea came on the opening day of high-level trade talks between delegations from the two countries in Bonn. It illustrates some enduring difficulties of trade with China, despite Peking's drive to modernise its economy by opening doors to foreign suppliers.

Herr Bangemann admitted that "transparency"—in the form of more up-to-date statistics and better elaborated invitations for project tenders—had improved of late. But potential suppliers are still finding it hard to obtain exact data upon which to base their offers.

He also demanded further help from the Chinese authorities for permanent representation of foreign concerns in the country—as well as greater attention to small and medium companies, well-placed to provide the increasingly specialised

equipment required by Peking planners.

Hitherto, Chinese concerns have tended to deal with large companies, better able to accommodate barter trading proposals, or join in the financing of a deal, Herr Bangemann pointed out.

Although long-standing proposals for German help with the development of China's civil nuclear, aerospace and space industries will be examined this week, both sides have warned that immediate and firm decisions are unlikely.

Even so, and helped by a surge of 22 per cent in China's exports to the Federal Republic, trade between the two countries came close to DM 5bn (\$1.6bn) in 1984. Bonn is looking for a further increase this year.

Mrs Chen Muhua, Minister for Foreign Trade who is heading the Chinese delegation, promised that the present liberalisation policies of Peking would be continued and speeded up. Foreign trade and pricing policies would be increasingly freed from ministerial dictate, she declared.

## ECGD 'will continue to meet its objectives'

BY OUR TRADE EDITOR

THE CASH flow problem of the Export Credits Guarantee Department should be seen against the perspective of reserves of more than £800m, Mr Paul Channon, Trade Minister, said yesterday.

He told a luncheon audience of City advisers to the ECGD that the Department would continue to be able to meet its twin objectives of encouraging exports and operating at no net cost to the taxpayer.

The ECGD was not alone in suffering a trading loss and a cash deficit. "All its international counterparts are in the same boat," he said.

The Minister coupled his words of reassurance with a

hint that some of the Department's loss-making services may be cut or abolished.

Mr Channon's remarks can be seen as anticipating the likely thrust of interrogation when the Public Accounts Committee of the House of Commons takes evidence from the ECGD later this month.

The Department's latest accounts were qualified by the Government auditor last week on the grounds that not enough provision had been made for political risk.

The auditor also questioned the viability of some of the services more peripheral to the ECGD's business.

## Alcatel forges new link in radio-telephone race

BY DAVID MARSH IN PARIS

A SHAKE-UP has taken place in alliances among French and West German electronics companies competing to build a joint radio-telephone service in the two countries.

Alcatel-Thomson, the French state-owned telecommunications group, has foreseen its earlier partner, Siemens, in favour of links with Standard Elektrik-Lorenz (SEL), the German subsidiary of International Telephone and Telegraph.

The two companies will be working together to reply to external tenders for a Franco-German cellular radio-telephone system, to be based on digital technology, planned to come into operation from around 1990 onwards.

Earlier plans forged by the Bonn and Paris Governments to

set up a joint system from next year onwards, based on older analogue equipment, were abandoned last autumn because of differences between the two sides over the technology involved.

Alcatel-Thomson yesterday said it had chosen SEL as the partner for the new system because it was the "most competent in this field."

The new association will also involve the private French Societe Anonyme de Telecommunications (SAT) as well as AEG Telefunken.

The decision effectively downgrades earlier plans at Alcatel on collaboration with Philips of the Netherlands over a 900 MHz cellular radio system based on the MATS-E standard, which still, as yet, exists only on paper.

## U.S. 'near' to regulations change on textile imports

BY NANCY DUNNE IN WASHINGTON

A HIGH-LEVEL inter-agency committee has been examining hundreds of comments protesting at new U.S. textile import regulations and is said to be close to proposing revisions of the rules implemented amid much controversy last autumn.

The Committee for the Implementation of Textile Agreements is composed of representatives from the State, Treasury, Labour and Commerce departments, and the U.S. trade representative.

The rules, condemned last month by the textile surveillance body of the General Agreement on Tariffs and Trade in Geneva, alter the American country-of-origin criteria and change the long-accepted "substantial transformation" requirement applied to U.S. textile and apparel imports.

The U.S. Customs Service, determined to stem what officials say has been a flood of illegal imports, claims the new rules have caused little disruption.

However, Hong Kong representatives in Washington last week said the regulations have caused a precipitous drop in 1985 orders.

U.S. Congressmen, retailers, importers and farmers have joined foreign governments to plead for at least a revision of the regulations.

Even the International Ladies' Garment Workers, anxious to have the country where apparel is sewn listed as the country-of-origin, wrote to the Customs Service to complain that the rules are "cumbersome and complex and leave many questions unanswered."

The Joint Industry Group, a coalition of industry trade groups, said the regulations issued while a worldwide effort is underway to standardise rules of origin for international trade, "represents an obvious proliferation of non-uniformity

and commodity discrimination for trade purposes."

The group's chairman, Mr David McDonald, warned that the rules may be expected to "generate concrete acts of retaliation against American exporters of other commodities."

There is no indication that the potential impact on the U.S. economy of such retaliation has been fully considered.

Farmers, too, are worried about retaliation, principally in regard to China, which failed to fulfil its commitment to buy 6m tonnes annually during 1983-84, when textile disputes were in progress.

"The U.S. pulled the rug out from under American exporters and foreign exporters by abruptly changing the rules and totally disrupting marketing arrangements," the U.S. Wheat Associates wrote to the Customs Service.

The Chinese sent a letter of protest to the State Department, ostensibly for seeing "negative results in our two-way trade" if the rules are not revised.

The new rules, however, have their adherents in the domestic industry. The made Fibre Producers Association complained of the "swelling of imports," lost business and jobs, and sees the rule as "an important major step toward the effective administration of our textile trade."

"Various foreign exporters have been using weaknesses in customs regulations to evade legitimate quotas," Congressman John Dingell wrote to President Reagan.

"Any weakening of the regulations will be a signal to those foreign producers who have been guilty of unfair and illegal practices that they can continue to thumb their noses at quota requirements and regulations of the Customs Service."

# EEC split over imposing import quotas on Bangladesh

BY ALAIN CASS, ASIA EDITOR

THE EEC is split over whether to impose import quotas on Bangladesh which, as one of the world's poorest nations, has been struggling to establish export industries in its bid for economic development.

The situation has arisen as a result of a massive increase in the imports of cheap shirts from Bangladesh into Britain, France and Germany in the past two years.

Discreet negotiations between Bangladesh and the European Commission have so far failed to resolve the issue. Another effort to reach agreement will be made later this month when an EEC mission visits Bangladesh but officials on both sides are pessimistic about the outcome.

Although the amounts involved are relatively small—Bangladesh's share of total EEC garment imports totals less than 0.1 per cent in volume—the issues raised by the row highlight the problems of encouraging least developed countries (LDCs) to stand on their own feet and rely less on western aid.

Britain and France are behind the move to impose quotas on shirts from Bangladesh. Imports into Britain have soared from 200,000 in 1983 to over 1.2m last year. France is faced with increases of the same magnitude.

However, West Germany which last year imported 1.7m shirts from Bangladesh is opposed to imposing import

quotas. Under the Community's present rigid rules on textile imports the imposition of quotas may be inevitable in the long run.

Bangladesh is arguing strongly that the imposition of quotas could cause massive unemployment in a new industry which employs 50,000 workers—90 per cent of whom are women—and which already accounts for over 8 per cent of the country's export earnings.

The number of workers is expected to triple by the middle of this year. A major cut could, in turn, unleash serious social unrest, officials claim.

Moreover, Bangladesh officials argue, the industry is entirely funded by the private sector. One Bangladesh official said:

"First the West asks us to stand on our two feet by promoting profitable private industrial development. When we do just that they complain."

Bangladesh is still struggling to get over huge floods which cost the country an estimated \$800m. The country is also faced with a mounting foreign debt burden while, at the same time, having a large adverse balance of trade with the EC.

The EEC move threatens substantial private investment currently being made in the shirt industry in Bangladesh. Community officials argue, however, that "only by putting on the squeeze" will Bangladesh be forced to diversify the development of its textile industry.

"The problem," said one official, "is that they have chosen to concentrate on a single item and a small number of markets."

Britain and France are deeply concerned about the increase of imported cheap shirts from Bangladesh. They point out that other countries in Asia, such as India, Pakistan, Malaysia, Sri Lanka and Hong Kong all have quotas.

If Bangladesh is allowed to increase its market penetration, these countries may press for an increase in their quotas. The EEC Commission has reluctantly imposed a three-month ceiling on the import of shirts into Britain and France from Bangladesh while the talks continue.

This was done in December under the bilateral textile agreement between Bangladesh and the Community which is negotiated within the framework of the Multifibre Arrangement.

If no agreement is reached in this month's talks, which are due to be held on February 11 in Dhaka, Britain and France will have to decide whether to ask the Council of Ministers to impose unilateral import quotas on Bangladesh.

Such a move is likely to be resisted by West Germany and other members of the Community who are not affected.

Britain has numerous aid-supported projects in Bangladesh although there is no immediate threat to these projects, officials in Dhaka say.

## Airbus, Boeing battle hots up for new Thai contract

BY BOONSONG K'THANA IN BANGKOK

A SURPRISE MOVE by the Thai Cabinet to defer endorsement for the country's domestic airline, Thai Airways Company, to buy two Airbus jets signals that the battle between Airbus Industries and Boeing is hotting up again.

It is the second time in less than three years that the two manufacturers are engaged in the fierce battle to sell jets to Thailand. In the first battle, Airbus won.

Airbus wants to sell two

A310 jetliners to Thai Airways, while Boeing is making an all-out effort to land a contract for a fleet of up to six B737-300s.

The move by the Cabinet, which often routinely approves proposals forwarded by Ministers, disappointed the European consortium which last September received a letter of intent from Thai Airways for the two jets, and was awaiting the Thai Cabinet's final approval.

On the other hand, it bolsters

hopes for Boeing to sell more B737s to Thai Airways, which already has five B737s in service. Though there is no official explanation on the "shelving" of the proposal, it has been reported that the decision was made by the Prime Minister, Gen Prem Tinsulanonda, because of his concern that the Airbus purchase would have a significant impact on Thai-U.S. relations.

The Prime Minister told Cabinet members that the matter should not be dealt with now, until consultation is held with the Finance Minister, Mr Somchai Woontrakul, who is due to return from an overseas trip.

Although the order by Thai Airways is not big, both Airbus and Boeing consider it an important sale that could determine the prospect for future sales in Asia.

Latest indications show that Thai Airways still has a strong preference for the A310—a

view which is supported by the National Economic and Social Development Board, the country's economic planning board which advises the Cabinet.

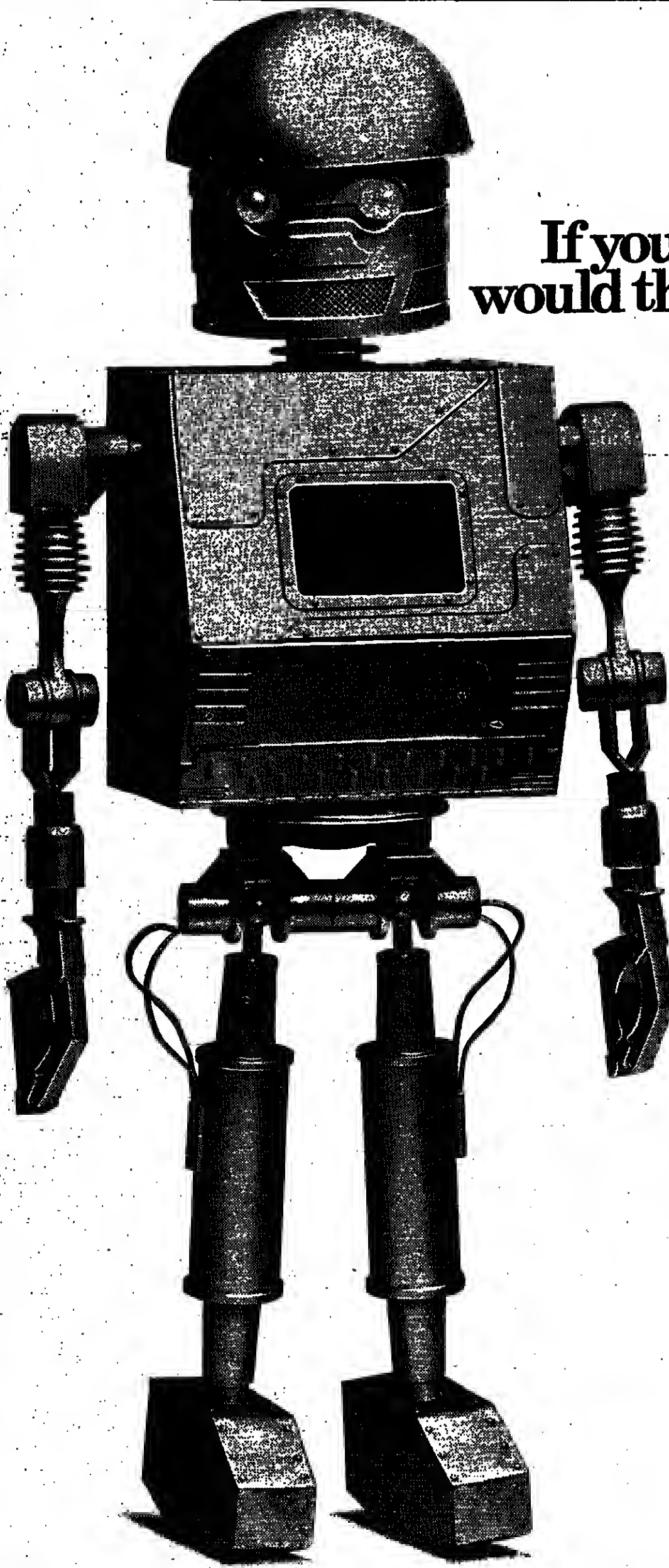
Airbus has already agreed to extend the deadline for the price offer of about \$110m (\$100m) for two A310s plus spare parts until mid-February. If the Airbus deal is approved soon, the first A310 will be delivered to Thai Airways in 1986 and the second in 1989.

## Oerlikon wins £230m Egypt arms order

By John Wicks in Zurich

CONTRAVES ITALIANA, an Italian subsidiary of the Swiss Oerlikon-Buehler group, has received a £230m (£230m) order for anti-aircraft equipment from the Egyptian Government.

The order covers quantities of Contraves "Skyguard" fire control systems, Buehler 35 mm anti-aircraft field guns, and also to be supplied by the Swiss group—U.S.-made "Sparrow" rocket launchers.



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## AMERICAN NEWS

The President's 1986 Budget proposals may be his last chance to tackle the deficit but doubts remain about Congress's response

## Weinberger stands his ground on defence cuts

"A DRAFT dodger in the war on the Federal deficit." That was how one Republican Senator, Mr Mark Hatfield of Oregon, scathingly chided Mr Caspar Weinberger last week for his adamant refusal to contemplate further cuts in the national military budget.

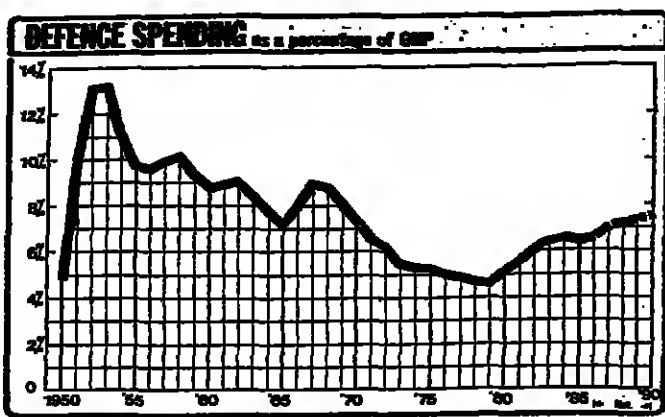
The amiable but tough U.S. Defence Secretary is used to being criticised for "intransigence" when he mounts his tedious annual campaign to protect the Reagan military build-up from the budget cutters on Capitol Hill. This year, however, he faces fiercer opposition than ever before.

Mr Weinberger is being told, by Republicans and Democrats alike, is that the Pentagon must shoulder its fair share of the burden if the budget deficit is finally to be brought under control. The savage cuts the Administration is proposing in domestic programmes will simply not be politically acceptable if defence alone is to remain unscathed.

At a time when most other programmes are being frozen, reduced or axed altogether, Mr Weinberger is seeking a real 5.9 per cent increase in defence spending authority, from \$284.7bn in the current year to \$301.7bn in fiscal 1986, which begins on October 1.

Outlays, on actual spending, would increase from \$248.3bn to \$277.5bn. Indeed, it is only by cutting other programmes by sums roughly equivalent to the defence increase that President Reagan has been able to achieve his aim of an overall budget "freeze" to attack the deficit.

The initial reaction among Senate Republican leaders, who have been drawing up their own alternative budget, was that if everything else was to be frozen, then defence should be frozen too. They are now backing away from that — on Sunday Mr Robert Dole, the Senate Republican majority leader, said that he felt that a real increase of 3 per cent would be about right. Nobody, however, believes that Mr Weinberger will get his 5.9 per cent — not even, it is reported, Mr Weinberger himself.



Last year the Republican-led Senate went for 7.5 per cent, the Democratic-controlled House for 3.5 per cent, and they settled at 5 per cent. If Republicans like Mr Dole are already down to 3 per cent, Mr Weinberger's figure looks like pure fantasy.

And yet Mr Weinberger has thrown himself into the fray with more relish and fervour than ever before. In the last few weeks he has conducted a virtually non-stop blitz of Congressional testimony, TV appearances and newspaper interviews, as well as about 70 private meetings with individual members of Congress.

Many of Mr Weinberger's arguments have a distinctly familiar ring. Defence spending, he maintains, is unique, "being the only part of the total U.S. budget determined solely by factors external to our nation." It should not, he says, be "tailored to fiscal needs."

There has, he argues, been no diminution in the Soviet threat or the continuing Soviet military build-up — let alone, the growing menace of international terrorism and regional instabilities and geopolitical uncertainties around the world. He has, he says, already pared spending to the bone, cutting his original request of \$301.7bn to \$284.7bn by almost \$17bn as the Pentagon's contribution to the deficit reduction exercise.

As part of what he maintains is the absolute minimum necessary for U.S. national security, Mr Weinberger is asking for \$4bn for 48 more MX intercontinental missiles, \$8.2bn for another 48 B-1 strategic bombers, and \$4.7bn for a new Trident submarine and the new more accurate Trident 2 missile. Research and development, at \$89.5bn, is the fastest growing item, fuelled by an almost tripling of funds for the "Star Wars" strategic defence programme, from \$1.4bn to \$3.7bn, rising to \$4.9bn in 1987 and \$6.2bn in 1988.

The U.S. is, he insists, must not return to the practice of stretching out weapons pro-

ducts prospect, however, is for further rises—the budget projections show a real increase in defence spending authority of 6.6 per cent in 1987 and 7.2 per cent in 1988.

Defence outlays, which represented 6.4 per cent of gross national product in 1985, will average just over 7 per cent over the next five years—not, the Pentagon says, "disproportionate share of the nation's wealth." Moreover, says Mr Weinberger's report, while defence spending will rise to almost 35 per cent of the total federal budget in 1986, this is relatively modest compared to the over 50 per cent of 30 years ago.

Again, the Pentagon says, it is not as if it could cut all that much more even if it wanted to. In its proposed 1986 budget, it says, pay-related items will account for 42.8 per cent of the total, and spending under past authority, already approved by Congress, for 38.3 per cent. That leaves only 11.9 per cent for new investment in research and development, procurement of weapons systems and military construction, and only 7 per cent for current operations.

This year, however, the Pentagon is asking for a 19 per cent increase in funds for weapons procurement,



Caspar Weinberger

mandate to rebuild American strength. Mr Reagan's rejection of the defence spending increase of only 3 per cent proposed by his Democratic rival Mr Walter Mondale, in the election campaign "was one of the elements that went into the renewal of his mandate," claims Mr Weinberger. But Congressmen, including the 22 Republican Senators who must face the polls again in 1986, will be looking to the next elections, not the last ones.

That is the key political reality that Mr Weinberger has against him. If the deficit is not brought under control, many Republicans fear that it could be a major issue in 1986, when one-third of the Senate and the whole of the House will be up for re-election. They also see that the strong mood of public support for the military build-up has waned since the early years of Mr Reagan's first term. There is a growing feeling that national security depends on a strong economy rather than on a large military build-up.

Mr Weinberger's critics would add that while he has provided an excellent fund raiser for the military, he has paid less attention to how the money is actually spent. Despite Mr Weinberger's claims that

"aggressive management" has reduced costs and increased competition for defence contracts, there are many on Capitol Hill who believe that waste and cost overruns are still endemic in Pentagon procurement.

Mr Weinberger has not always helped his own case. He has provoked cynicism with his claim that defence cuts do not help to reduce the budget deficit, and last week he angered a number of Congressmen by suggesting that those who sought defence cuts were being unpatriotic, almost to the point of treason, by seeking to "weaken the security of the country." And there is a general feeling on Capitol Hill that Mr Weinberger has been exaggerating—feeling encouraged by last week's "goal" when he claimed that the Soviet Union had shot down one of its own stray missiles over Finland, just as his own experts were denying it.

"How often do you cry wolf?" asked Mr Hatfield, who is also chairman of the Senate Appropriations Committee. Congress, he pointed out, had not met all of the Pentagon's requests in the past and "it hasn't meant doom."

In fact, Congress has only cut an average of about \$15bn a year from Reagan Administration requests, with much of the savings coming from lower inflation. A recent Library of Congress study estimated that Congress has approved almost 97 per cent of the military funds requested by the Administration since March 1981. And it has not so far, axed any major weapons systems.

Mr Reagan, for his part, is once again supporting Mr Weinberger, as he has every year in the past, even at the cost of failing to reach his deficit reduction targets. "We've squeezed that apple pretty good," he said earlier this month, "but we're going to squeeze it further." This time, however, Congress is no longer talking about squeezing the apple, but taking a large bite out of it.

## HIGHLIGHTS OF CUTS

Aggregate spending freeze: 1986 spending excluding debt service is \$304bn—identical to the estimated 1985 level. Within this aggregate freeze, there are hundreds of policy-based increases and decreases at the programme account level.

Programme level policy measures used to achieve aggregate spending freeze:

- Selective cost-of-living freezes: Military and civilian retirement, Federal pay and minor non-means-tested programmes. Food stamps, SSI, social security and veterans compensation and pensions exempted from cost-of-living adjustment (COLA) freeze.
- Discretionary programme budget authority freeze: Applied to nearly every non-defence account as a minimum cut from current services. Selective accounts in the "plus" category involve additional, deeper policy-based reductions.
- Major programme reforms: Includes entitlement and other mandatory spending changes in programmes like student aid, veterans health care, farm price supports, Federal retirement and navigation. These reforms produce savings substantially in excess of a freeze.
- Selective programme terminations: 25 major programme and numerous minor ones are eliminated entirely. Examples include Amtrak, General Revenue Sharing, Small Business Administration (SBA), Export-Import Bank Direct Loans and Urban Development Action Grants (UDAG).
- A 10 per cent administrative expense cut: Applied uniformly to nearly all non-defence operating and salary expense accounts. In many cases, actual savings will be achieved through Grace Commission recommendations.
- Selective cuts beyond freeze level: Based on policy merits, many programmes of lower priority are retained but reduced substantially below the 1985 level. Examples include a 10 per cent cut in energy R and D programme, and a 40 per cent cut in soil conservation programmes.

	FEDERAL FINANCES AND THE GROSS NATIONAL PRODUCT		DEFICIT	
	GNP	Receipts	Outlays	Deficit
	\$bn	\$bn	\$bn	\$bn
1970	262.0	15.9	20.2	2.4
1971	274.0	16.8	21.0	2.2
1972	286.0	17.8	22.5	2.7
1973	296.0	18.8	24.5	3.2
1974	306.0	19.8	26.5	3.7
1975	316.0	20.8	28.5	4.2
1976	326.0	21.8	30.5	4.7
1977	336.0	22.8	32.5	5.2
1978	346.0	23.8	34.5	5.7
1979	356.0	24.8	36.5	6.2
1980	366.0	25.8	38.5	6.7
1981	376.0	26.8	40.5	7.2
1982	386.0	27.8	42.5	7.7
1983	396.0	28.8	44.5	8.2
1984	406.0	29.8	46.5	8.7
1985	416.0	30.8	48.5	9.2
1986	426.0	31.8	50.5	9.7

1985-1986 estimates . . . assuming proposals in 1986 budget message are enacted.

THE GROWTH OF FEDERAL DEBT AND NET INTEREST PAYMENTS		\$bn		1980		1985		1990	
Federal debt	\$14.0	1,841.0	2,074.0	2,308.0	2,547.0	2,764.0	2,975.0		
Federal interest	(net)	58.5	130.4	142.5	152.8	159.2	147.6	137.7	

1985-1990 projected on economic and spending assumptions in 1986 budget message.

ECONOMIC FORECASTS*		1984		85		86		87		88		89		90	
GNP (nominal)		3.2	3.5	3.5	3.3	3.0	2.4	2.1	1.8						
GNP (real)		5.5	4.0	4.0	4.0	4.0	3.8	3.6	3.4						
Consumer prices		2.5	4.2	4.2	4.1	3.8	3.5	3.2	3.0						
Unemployment		7.1	6.9	6.5	6.5	6.2	6.0	5.7	5.5						
Interest rates (91-day Treasury bill)		8.6	8.1	7.9	7.2	5.9	5.1	5.0							

\*Percentage changes (fourth quarter to fourth quarter), except unemployment and interest rates.

MAJOR BUDGET COMPONENTS		\$bn		President's budget		1985		1986	
Component	Enacted 1985	1986	President's budget 1987	1988					
Social insurance programmes	\$296.3 (30.9%)	\$309.5 (31.8%)	\$328.5 (32.0%)	\$351.1 (32.1%)					
Means tested benefits	\$69.9 (7.3%)	\$69.1 (7.3%)	\$71.8 (7.0%)	\$75.5 (6.9%)					
Other domestic programmes	\$179.4 (18.7%)	\$179.4 (18.7%)	\$179.4 (18.7%)	\$179.4 (18.7%)					
Defence and national interest	\$253.1 (25.5%)	\$253.1 (25.5%)	\$253.1 (25.5%)	\$253.1 (25.5%)					
Net interest payments	\$120.4 (12.6%)	\$120.4 (12.6%)	\$120.4 (12.6%)	\$120.4 (12.6%)					
Total Federal outlays	\$959.1	\$959.1	\$959.1	\$959.1					

\*Share of budget total.

SUMMARY OF SPENDING REDUCTIONS*		Budget Savings		Total %	
Reduction Category	1986	1987	1988	5 of Total	
1 Major programme	16.9	26.2	32.5	75.6	32
2 State/Local	2.8	5.7	6.5	15.9	7
3 Development & Federal Services	2.3	4.5	6.4	15.5	6
4 Agriculture Reforms	5.6	10.5	12.7	28.8	12
5 Business, Commercial & General	5.8	8.1	9.5	23.4	10
6 Social Programme Terminations	6.9	1.8	2.1	4.8	2
7 Other Domestic	3.6	7.2	10.0	20.7	9
8 Defence and Cuts	8.7	10.2	10.2	29.1	12
9 Debt Service Savings	2.2	0.2	0.2	0.4	0.2
Total Savings	50.5	82.7	105.3	235.5	100

\*Reductions from current forecasts without policy changes.

## Reagan's popularity crucial in high stakes game

BY STEWART FLEMING IN WASHINGTON

IF President Ronald Reagan is even to achieve his long proclaimed goal of shrinking the Federal Government and bringing soaring budget deficits under control, his best and probably his last chance will be in the outcome of the political battle which began officially yesterday over the shape of the 1986 budget.

With his electoral triumph behind him, the President has the chance to use his formidable political popularity to adopt what is clearly a controversial strategy for checking the ominous growth of federal debt and for trying to reduce the debilitating \$200bn a year budget deficits.

He has sent Congress a proposal which even his own party leaders say is politically unrealistic. Alongside a \$31bn increase in defence spending, he is proposing a combination of a freeze or draconian cuts in most of the Government's outlays with the objective of reducing government spending as a share of Gross National Product from 25 per cent in 1985 to 21 per cent in 1988.

The question arises whether the President is making the best use of the window of opportunity offered by the American electoral cycle. The argument goes that this is the only year that Congress has the political room to manoeuvre to take the difficult and unpopular steps of taxing and spending decisions which would attack the struc-

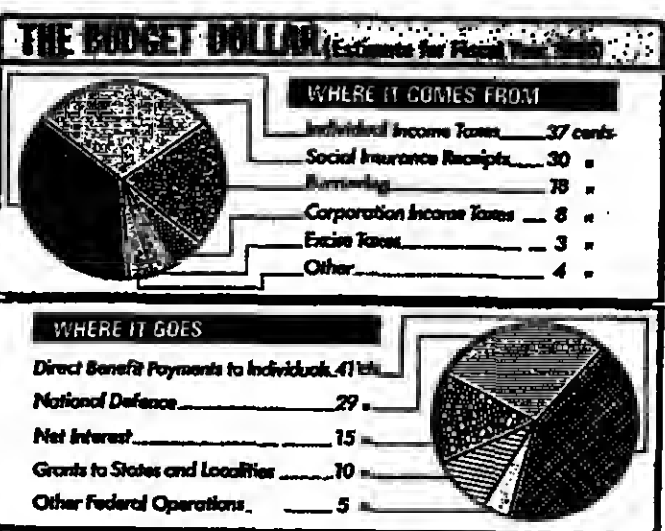
tural deficit problem. Next year, with looming mid-term Congressional elections and the Republican majority in the Senate in the balance, few political observers can imagine a Congress willing to risk the electoral retribution which might be visited by cutting Federal handouts.

By 1987, Mr Reagan will be in the second half of his final term of office and probably unable to muster the political clout needed to impose his budgetary will.

Nonetheless, his proposals are a painful nudge for Congress to grasp this year. Interest groups across the country have just uttered screams of outrage at Mr Reagan's intention to achieve target savings of \$75.5bn over three years by curbing spending on such social programmes as medical help for the elderly, child nutrition and subsidised housing.

The Reagan era is also levelled at \$15bn of state and local government subsidies and a \$23bn cut in subsidies to business and commercial interests. The President's motives for tackling the budget issue in this way are hotly debated. Some question the depth of his concern about the deficit after three years during which predictions of the threat it poses to the economy have been belied by events.

Others, however, maintain that Mr Reagan is concerned, and is well aware that if a "quick-fix" of the deficit is suddenly needed because of economic problems, Congress would be unlikely to take the steps that Mr Reagan views as one of his



greatest successes, the first term tax changes which the Government estimates will save Americans some \$650bn in taxes between 1984 and 1988.

Thus it is argued the President is simply following his traditional negotiating strategy of staking out the toughest possible bargaining position before the battle starts. In effect what he has done is to try to land Congress with the job of making the politically unpopular decisions—particularly on social security spending which would affect over 35m American pensions—partly to try to minimise the cuts in defence spending which he knows he must ultimately concede in order to win some of the other budget cuts he is seeking.

This interpretation of the Administration's strategy is

born out implicitly by the economic analysis in the budget documents themselves which are starkly realistic about the dangers the U.S. is facing.

While claiming credit for helping to slow inflation to around 4 per cent, the Administration says that the value of the dollar has helped to subside inflation. But it adds that "the dollar cannot continue to rise indefinitely" that current inflation rates are a far cry from the "stable" and that "never in the post-war period has the U.S. enjoyed so long a period of uninterrupted economic growth without an acceleration of the pace of inflation."

The budget message also notes the danger inherent in the country's dependence on huge inflows of foreign savings

to finance public and private capital needs. It warns that "should foreigners attempt to remove their purchases of dollar assets while we are still running a large current account deficit . . . the dollar might temporarily rise as the dollar's exchange rate falls" and economic growth could slow.

In a break with the propaganda which came out of the Administration in 1984, the budget message links high U.S. interest rates with the huge budget deficit, and it expresses concern about the long term implications for productive private capital formation of the rapid accumulation of federal debt.

Government bonds are not backed by real capital and do not represent any increment in capital for society . . . this is the essence of the crowding out problem. For a given level of private wealth the more that is accounted for by Federal Government debt the less will be the economy's total real capital stock.

The budget document even takes aim at the fervent supply side economists who have been among President Reagan's staunchest supporters. Economic growth alone, it implicitly states, will not solve the budget deficit problem.

To those who have suggested that the budget planners should raise the real growth rate for the rest of the decade rather than the 4 per cent they have used, the budget points out that in the 1980s rapid growth of around 4.5 per cent a year has been limited by stagflationary pressures, that the long term economic projections

already include optimistic assumptions about employment growth, and that the assumed rate of growth of productivity of 2 per cent a year which underlies the assumptions is already much higher than in the 1970s.

"There is no hard evidence at all that (productivity) is approaching the much more rapid rates that would be required for real GNP to grow at 5 per cent a year or faster," the message adds.

As for the proposal that a more stimulative monetary policy could clear the way for a faster economic expansion, the budget says "it is wrong to assume that because a stimulative monetary policy can produce higher rates of real economic growth in the early stages of a business cycle recovery it is capable of producing rapid growth at any stage of the cycle."

Thus the budget itself spells out clearly what most economists have said for many years on Capitol Hill: namely that America is walking along the edge of an economic precipice, accumulating deficits and debt at an unsustainable pace with ominous implications for the American and world economies. The question which has yet to be asked, however, is whether after the failure of the past three years, the American political system can, in the absence of a palpable crisis, finally take the steps to reduce the deficits which most agree are needed. Failure by a President at the height of his influence and popularity to achieve one of his highest stated priorities will revive questions about the power of the office and cast a pall over the financial markets.

## Dissident Peronists oust leaders

BY JIMMY BURNS IN BUENOS AIRES

THE PERONISTS, Argentina's major opposition grouping, yesterday suffered a historic split when a majority of dissident members voted overwhelmingly to oust the bulk of the party's leadership.

At the end of a hectic two-day meeting near the northern town of Santiago del Estero, over half of the Peronist party's 850 person convention agreed to set up a provisional national council to represent the party in the mid-term parliamentary election on November 3.

The dissidents, who include 10 provincial governors, most of the party's parliamentary group moderate trade unionists and student groups, also agreed to implement wide ranging internal reforms.

These include a system of indirect voting by militants aimed at making the future leadership more responsive to the party's grassroots along broadly social democratic ideological lines.

The move challenges the orthodoxy and personal patronage that has guided the Peronist party ever since it was founded

in 1947 by the late General Juan Peron. It brings to the surface a bitter power struggle which was stimulated by the party's crushing electoral defeat in October 1983.

The dissidents' meeting was an open snub of the party's "official" acting leadership which on Friday had a poorly attended Congress of its own in Buenos Aires.

Less than half of the party's national convention turned up to vote in favour of a motion backing the current leadership's efforts to secure the unity of the party's rival factions.

The weekend development means that the Peronists would almost certainly be embroiled in legal battles in the coming weeks as each faction argues its legitimacy before the electoral court.

Most political observers believe that the split will ensure a sweeping victory for the ruling Radical Party of Sr Raul Alfonsin when over half of the Chamber of Deputies comes up for re-election in November.

Nevertheless, the Peronist

controversy could undermine the Government's efforts to secure a social contract on prices and incomes. It is also likely, the leadership struggle is passed down to the Peronist-dominated trade union movement.

Contrary to what was expected, the dissidents did not at the weekend debate a formal motion of no confidence in Sr Maria Estela "Isabelita" Peron, the general's widow, who has exercised an ineffectual titular leadership from Madrid since she was first exiled there by the former military regime in 1981.

However, the dissident challenge to the party's Buenos Aires-based acting leadership is an indirect rebellion against the kind of orthodox policies implicitly favoured by General Peron's only surviving political heir.

The acting leadership challenged by the dissidents include Sr Lorenzo Miguel, one of the few union bosses surviving from the Peron years, and the recently re-elected Secretary General of the powerful Metal Workers Union.

## Ecuador 'to raise future loans on normal basis'

BY PETER MONTAGNON AND HUGH O'SHAUGHNESSY

ECUADOR WILL no longer need to force commercial bank creditors to grant it loans following this year's agreement to reschedule \$4.3bn (\$3.8bn) in debt falling due between 1985 and 1989. Sr Francisco Viteri, Finance Minister, said in London yesterday.

Future loans will be raised on a normal voluntary basis only, although the amounts needed will be very small and Ecuador will turn mainly to organisations such as the World Bank and Inter-American Development Bank to meet its financial requirements, he said.

This year's current account balance of payments deficit is projected at \$208m and the payments balance should fluctuate close to that level for the rest of the decade, reaching \$207m in 1990, Central Bank figures show.

Sr Viteri said the forecasts assume an oil price of \$28 per barrel, \$1 more than the price Ecuador is now receiving. But this shortfall is more than offset by an overly conservative forecast of interest costs.

Ecuador has assumed an interest charge of 13 per cent on its \$7.5bn foreign debt, about 21 per cent more than it is actually paying.

The interest margin on its 12-year rescheduling has been set at 11 per cent over euro-currency rates. In addition, Ecuador is to receive a \$200m bank loan negotiated last year and the maturity of its \$700m short-term trade finance facility is to be extended for a further year.

As part of its return to voluntary borrowing, Sr Viteri said that Ecuador would like to raise among \$100m in trade finance from commercial bank creditors. Ecuador's new President Leon Febres Cordero has adopted a much less radical approach to the foreign debt issue than his predecessor, who was one of the founders of the so-called Cartagena group of Latin American debtors.

"There is no practical possibility of taking a common approach where debtors negotiate collectively," Sr Viteri said.

## Debtor nations to seek summit

BY ROBERT GRAHAM IN SANTO DOMINGO

America's 11 leading debtor nations gathered here this week are expected to co-ordinate their position on holding a summit to consider the region's \$500bn (\$213bn) foreign debt.

This is the second time that the 11 countries have met since first defining a common debt position in Cartagena, Colombia, last June.

Experts began meeting here yesterday and sessions of foreign and finance ministers will be held on Thursday and Friday.

At the last meeting in Mar del Plata, Argentina, in September, the group—Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, the Dominican Republic, Uruguay and Venezuela—agreed to press for a summit in the first half of 1985.

The main difficulty facing the delegates is the so far half-hearted response by the industrial



# response OF CUTS

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PERCENTAGE OF GNP	Outlays	Deficit
20.2	0.3	
21.0	2.9	
21.5	2.7	
21.5	4.2	
22.1	6.4	
24.8	5.2	
23.2	5.7	
22.6	4.3	
22.2	3.6	
22.2	2.9	

DEBT PAYMENTS	1988	1989
1.0	2,547.6	2,784.0

CASTS	1988	1989
1.5	8.5	8.0
1.0	4.0	4.0
1.2	4.1	3.8
1.8	6.5	6.2

REDUCTIONS	1988	1989
2	22.3	13.6
6.3		13.9
6.4		13.5
12.7		23.8
8.7		23.4
2.1		4.8

President's budget	1987	1988
\$328.8	E	
(32.6%)	E	
\$71.6	E	
(7.0%)	E	
\$125.3	E	
(12.5%)	E	
\$249.1	E	
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\$132.9	E	
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REDUCTIONS	1988	1989
2	22.3	13.6
6.3		13.9
6.4		13.5
12.7		23.8
8.7		23.4
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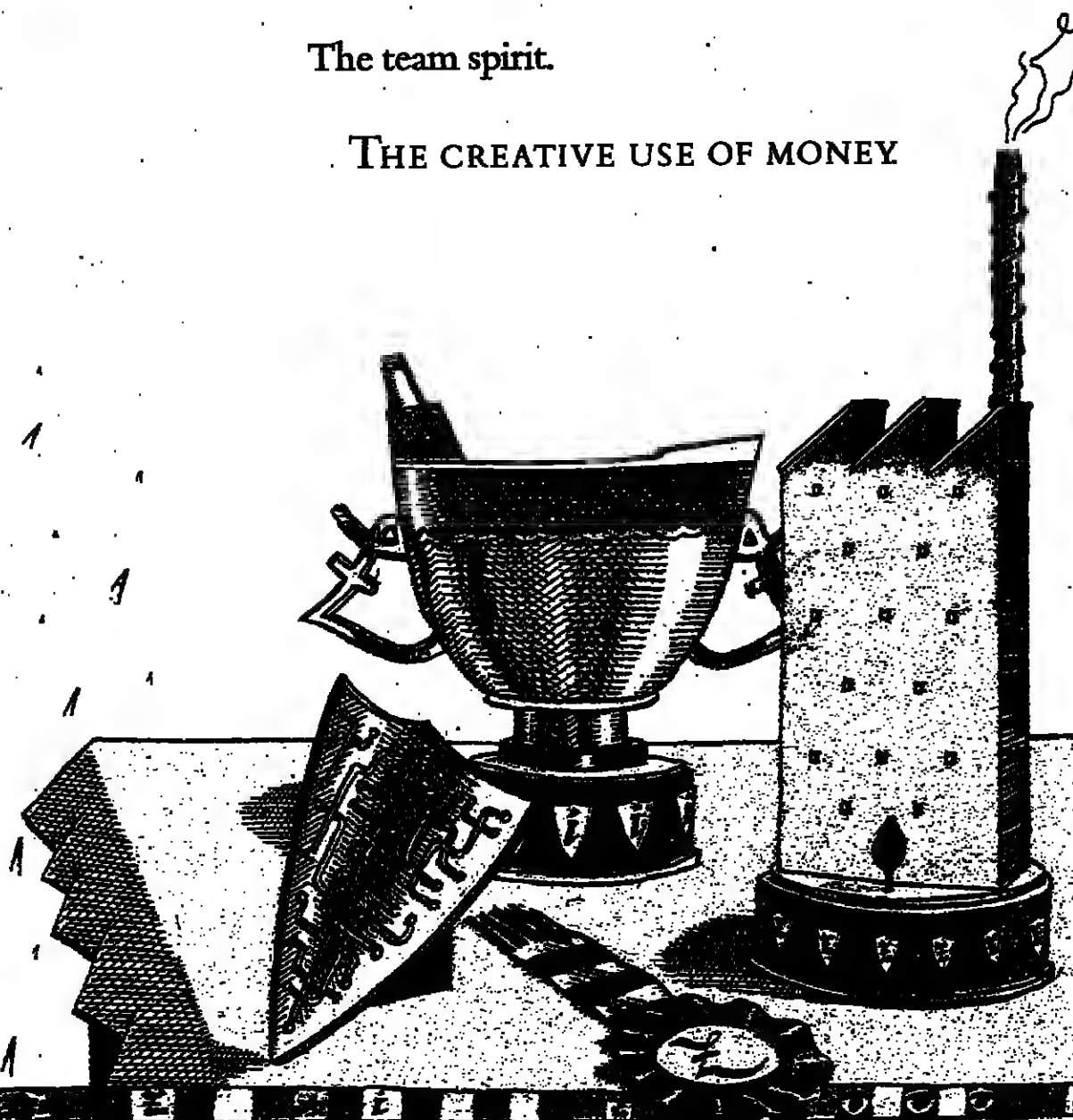
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# A FINANCIAL TIMES SURVEY INTERNATIONAL CAPITAL MARKETS

MARCH 18, 1985

The Financial Times is planning to publish a Survey on International Capital Markets in its issue of March 18, 1985. The provisional editorial synopsis is set out below:

**INTRODUCTION** Deregulation of domestic markets and continuing volatility of interest and exchange rates have encouraged a period of rapid change in the international capital markets. Following the abolition of withholding tax the U.S. Treasury has borrowed for the first time in Europe; a new market has developed in syndicated Euronotes, and debt swaps are bringing bond markets in a range of currencies much closer together.

Editorial coverage will also include:

- The World Economy and Payments Trends
- Interest and Exchange Rates
- The Developing Country Debt Crisis
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- The City Revolution
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- New Techniques and Instruments
- The Syndicated Loan Markets
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**FINANCIAL TIMES**  
EUROPE'S BUSINESS NEWSPAPER

The size, contents and publication dates of all Surveys appearing in the Financial Times are subject to change at the discretion of the Editor

## UK NEWS

### £ worries exaggerated, says Bank governor

By Our Financial Staff

WORRIES IN financial markets about the impact of a strong dollar and oil price uncertainties on sterling "have been greatly exaggerated," Mr Robin Leigh-Pemberton, Governor of the Bank of England said last night. The authorities' reaction in pushing interest rates up sharply should, however, have left no doubt about their determination to conquer inflation, he added.

Mr Leigh-Pemberton, who was addressing the annual banquet of the Overseas Bankers Club, also claimed that the gyrations of the foreign exchange markets "do not have their origins in developments in the real economy, where we continue to make steady progress."

The Governor also saw progress in resolving the international debt situation, where many countries had got their foreign payments into better balance. Much of it had been helped by the burgeoning U.S. trade deficit and falling dollar interest rates, which might not persist. He also saw less evidence of internal adjustment. Many programmes instituted by the International Monetary Fund (IMF) were not being observed, and arrears to the IMF were growing.

He was also concerned about the growing practice among banks competing for international loan business to accept slim margins or make off-balance-sheet commitments without proper capital backing.

"Bankers would be well advised to examine closely the extent of these risks and to consider carefully the appropriate price to charge of them," he said.

### Gas reserve estimates may be 20% too low

BY IAN HARGREAVES

A SIGNIFICANT upgrading of Britain's natural gas reserves is expected to be disclosed shortly by the Government, underlining the official view that Britain does not need a large tranche of imported gas to replace supplies from the Norwegian Frigg field.

The record level of drilling in the North Sea last year, much of it in the gas-prone area of the southern basin, has apparently convinced Department of Energy statisticians that the gas reserve figures published last May in the Brown Book on oil and gas resources are about 20 per cent too low.

The last Brown Book put remaining proven and probable UK Continental Shelf reserves at 40.6 trillion cubic feet (tcf). In addition, 19.1 tcf of gas was identified as possible and between 6.5 tcf and 20.1 tcf as likely to be available on statistical grounds, from undiscovered fields.

The revised figures will take the Government closer to estimates of gas reserves made by the oil companies, which have been leading the argument against British Gas's plan to import \$30bn of gas from Norway's Sleipner field.

Although it is difficult to compare rival estimates of UK gas reserves, because they are compiled in different ways, the Brown Book estimates have generally been at the bottom end of the range. British Gas's own figures are in the middle of the range and British Petroleum's at the top.

Demand for gas is running at 1.8 tcf a year, suggesting that the present UK proven and probable reserve base has a life, unsupplemented by imports, of between 25 and 30 years.

The Government will undoubtedly use its new figures to bolster its arguments against the proposed Sleipner deal. Sleipner contains about 7 tcf of gas.

Another deadline passed in the Sleipner saga last week, when the Government failed to honour an undertaking given privately to Mr Kaare Kristiansen, the Norwegian

Energy Minister, that Britain would make up its mind about the Sleipner deal by the end of January.

Indications in Whitehall yesterday, however, were that a decision should come in the next few days. The initial commercial contract between British Gas and Statoil was signed in mid-February last year.

British Gas does not accept that an upgrading of UK reserves undermines the case for Sleipner. It argues that in a gas market as large as Britain's, a large import cushion is desirable. It also expects gas demand to rise from 1.8 tcf a year to more than 2 tcf a year.

Some oil companies argue that British Gas wants the large Sleipner import mainly in order to hold down the price it has to pay for UK gas supplies, and that this in turn inhibits development of UK gas fields.

With tax revenue from oil production expected to peak next year the Treasury is anxious that the gap in the 1990s is filled as much as possible with tax revenue from UK gas.

### Shell/Esso to develop Tern

BY DOMINIC LAWSON

APPROVAL for a £1bn North Sea oilfield development is to be announced later this week by the Government.

The Shell/Esso North Sea joint venture will be given approval to develop the Tern oilfield, which contains recoverable reserves of about 150m barrels of oil and 400m cubic feet of gas.

Oil analysts at stockbrokers Wood Mackenzie estimate that the field might be producing oil in early 1989, and reach a peak of 50,000 barrels a day. That would make Tern one of the biggest North Sea oilfield developments to be announced in the past few years.

The Tern field was discovered about 75 miles north east of Shetland, in 1975. However, it has been subject to a certain amount of controversy since then. In 1982 Shell publicly shelved the project, and in large measure blamed that decision

on what it saw as a too severe North Sea tax regime.

The changes in North Sea oil taxes in the 1983 budget — giving greater tax relief for new field developments — are, therefore, thought to have influenced the present decision to develop the field, which has an unusually complex reservoir.

The Tern oilfield platform is expected to be of conventional steel design.

### Telecom will have '£1.5bn for acquisitions'

BY JASON CRISP

BRITISH TELECOM (BT) would have £1.5bn to spend on acquisitions over the next four years even if it keeps its borrowings at their current level, according to stockbrokers de Zoete & Bevan.

In a new report on British Telecom, de Zoete has increased its profits estimate significantly. It expects BT pre-tax profits to rise to £2.47bn in the financial year to March 1989 compared with the

£2.13bn it predicted last year.

Even so, the rate of growth in profits is expected to decline year by year and will only just be 10 per cent in 1989 compared with 19.8 per cent forecast for this year.

De Zoete was one of the brokers to the BT offer last year and produced what was probably the most comprehensive report on the company last June. It also made the

most accurate prediction on BT's half-year figures announced last month.

De Zoete has increased its forecast because of lower expectations in earnings. In addition, it increased the profits forecast in pension contributions that became clear only in the prospectus.

The report says: "Although our revenue forecasts are virtually the

same as before (9 per cent per annum) the mix of revenues is much improved. A higher proportion will now come from less competitively exposed areas such as local calls, and line rentals and smaller proportion from national (trunk) calls and BT International. As a result of the changed mix of revenues, the earnings are now of better quality, BT will be less exposed to 'cream skinning' from competitors."









## UK NEWS

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## ANALYSTS ASSESS OUTLOOK FOR STERLING

## Interest rates 'unlikely to drop back below 12%'

BY MAX WILKINSON, ECONOMICS CORRESPONDENT

UK INTEREST rates are unlikely to fall back below 12 per cent for some time, according to most analysts in the City of London.

After the rise of banks' base lending rates to 14 per cent last Monday, the City has been anxiously trying to assess the stability of sterling and the new mood of the authorities.

Yesterday, the broker James Capel said in its latest UK Economic Assessment: "The change of stance of the authorities apparently opens the way to even higher rates (of interest) if sterling comes under further substantial pressure."

Capel says the state of the City's confidence in the fundamentals of domestic policy "is likely to permit only a gradual reduction in interest rates."

"Evidence of monetary growth returning within its target range and public expenditure (and the Public Sector Borrowing Requirement) well under control will be necessary to re-establish confidence."

"This is perfectly feasible, but it will not happen overnight. This points to the average level of interest rates remaining high in the first half of the year, despite a reduction from current 'crisis' levels."

Mr Stephen Lewis, monetary analyst for the broker Phillips and Drew, said: "The markets are accommodating themselves to the new thinking, which is that base lending rates are not likely to come down substantially for some time."

The broker Laurie Milbank says in its Economic Review that the most worrying aspect of the recent weakness of sterling is that the outlook for inflation is beginning to deteriorate, while there is still no genuine sign of a downturn in unemployment.

The broker adds that if the Chancellor of the Exchequer succumbs to political pressure to make extravagant tax cuts in his budget, the UK economy would be in danger of drifting towards Reaganomics.

It adds that even if the influence of oil prices were removed from the UK monetary scene, any improvement in UK gilt-edged (government) stock prices must stem from domestic factors, since US interest rates are likely to move upwards again towards the second quarter of the year.

Messel and Co says in its weekly Economic Monitor that the Chancellor must go for a fairly tight bud-

get. It adds: "The loss of financial confidence has been one reason for the emergence of very high real interest rates."

"In this sort of environment, any government running a budget deficit is likely to end up in a debtor's nightmare where interest on past debts grows explosively and overwhelms attempts to control other items of public expenditure."

Messel adds that deterioration of financial confidence has raised expectations about future inflation as well as real interest rates. It believes the inflation rate should touch 6 per cent at some time in the summer.

Rowe and Pitman in its Economic Review says that today's money supply figures will be crucial for the markets' perception of what the monetary stance actually was during last month's sterling crisis. That is because previous figures had been distorted by the effect of the flotation of British Telecom.

Mr Ian Harwood, the broker's economic analyst, said that the authorities would be anxious to maximise gilt-edged sales in the present banking month (ending February 20), to make sure the next money supply figures are good.

## Whitehall plans help for small businesses

By Ian Hamilton, Fizzy and William Dawkins

THE GOVERNMENT will shortly receive proposals for cutting some of the bureaucracy that Whitehall believes is seriously hampering the emergence of new businesses.

The report, drawn up by a committee that includes members of seven government departments, is expected to be finished by the end of next week.

Recommendations will be submitted to Mrs Margaret Thatcher, the Prime Minister — who has declared a special interest in their implementation — and to Mr David Trippier, the minister for small businesses.

The most controversial feature of the report is that it is unlikely to make any suggestions for alleviating the burden of value-added tax (VAT), which a number of surveys has shown to be the biggest obstacle for small businesses.

Many ministers, including Mr Trippier, would like to see the VAT threshold raised from £18,700 turnover a year to £50,000 or even £100,000. But the Treasury insists that VAT is a matter for the budget and not for deregulation reforms. The Government's present policy is to raise the VAT limit according to inflation at each annual budget.

The European Commission, meanwhile, is putting pressure on Whitehall to reduce the VAT limit. It points out that the UK is out of step with the rest of Europe and that its VAT threshold is the second lowest in the Community after Ireland.

The scrutiny committee's report is likely to concentrate on cutting other kinds of bureaucracy. It is expected to suggest ways in which planning permission could be easier for small businesses to obtain. Less onerous requirements for company registration are also believed to be among the proposals.

The committee is also likely to suggest that the Government's enterprise allowance scheme should be extended. The basic requirements are that self-employed applicants who have £1,000 to put into their ventures can qualify for a £40-a-week subsidy.

The committee is understood to wish to retain those rules, but to make more money available so that the existing backlog of applications can be cleared quickly.

## Sales of diesel cars nearly double in year

By John Griffiths

DIESEL CAR sales in the UK almost doubled last year to 45,388 compared with 24,802 a year earlier.

Their share of the total new car market, at 2.5 per cent, remained small compared with most continental European countries, where, according to Ford, more than 20 per cent of cars sold in Italy, Spain and Belgium are diesels and more than 10 per cent in West Germany, France and Ireland.

The introduction by Ford and Vauxhall of diesel-engined versions of their volume cars has given a sharp impetus to UK sales.

The UK retail motorcycle trade is moving back towards profitability despite a continuing low level of sales, according to a survey of 400 dealers undertaken by the Motor Agents' Association.

## Short wins Chinese order for eight aircraft

BY OUR BELFAST CORRESPONDENT

SHORT BROTHERS, the state-owned Belfast aircraft maker, has received an order from China for eight aircraft.

The Civil Aviation Administration of China (CAAC) is to buy the 36-seat 380 regional airliner as part of its programme to expand and update the fleet of civil aircraft.

It is Short's first order from Peking and the first sale of an all-British aircraft to China since orders for Trident were placed in the early 1970s. Orders and options for the 380, which was launched in 1981, now exceed 100.

Short said there was a possibility of further orders from CAAC. It put no value on the sale, but it is understood to be worth more than £30m, and will help to secure the jobs of many of Short's 5,500 workers after

a year in which sales of the 380 were lower than expected.

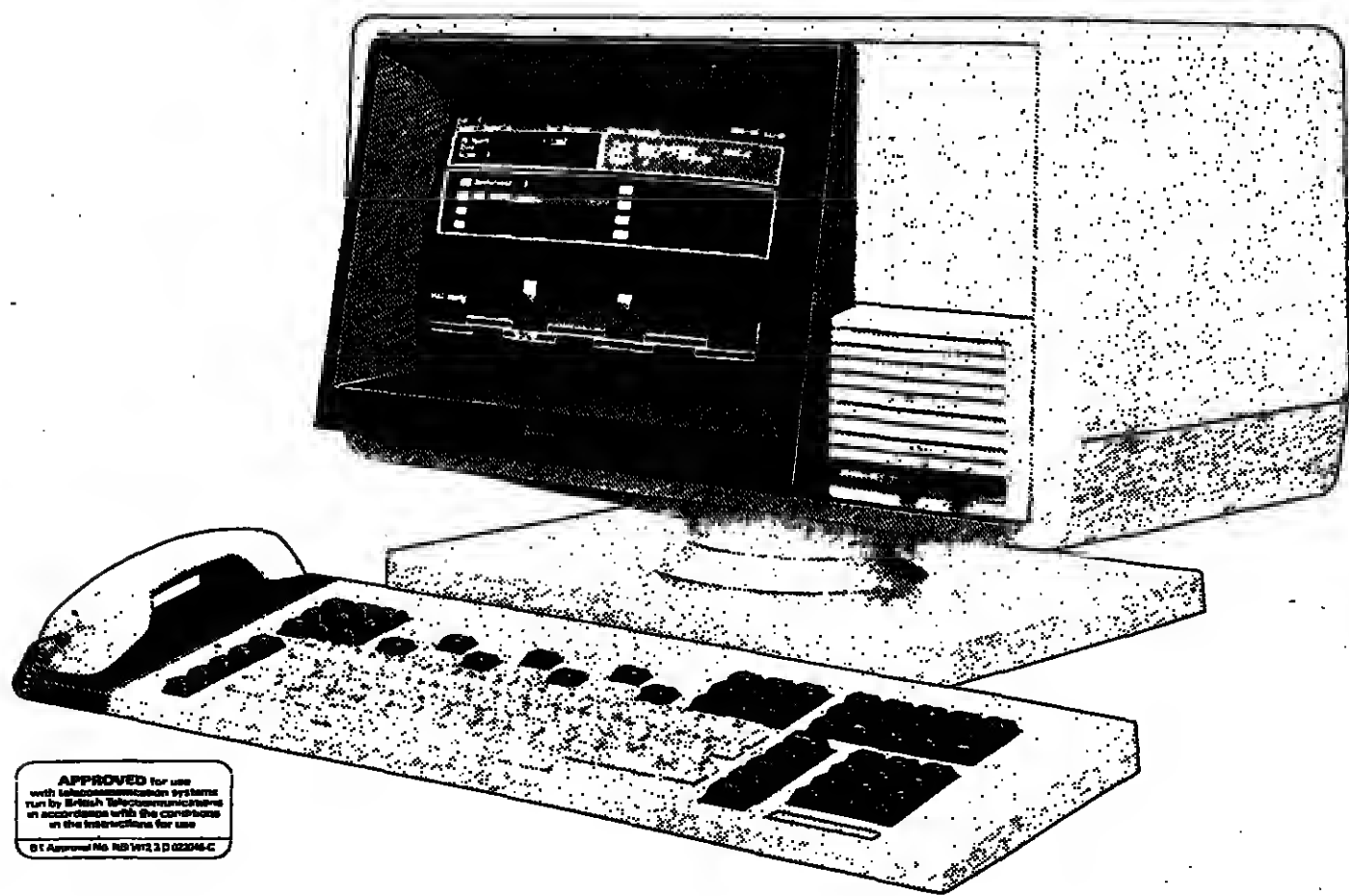
Sir Philip Foreman, Short's chairman and managing director, said the CAAC was updating its fleet and extending its routes. Short had the right aircraft at the right time and he hoped the sale would be the start of a long relationship.

The aircraft will all be delivered this year to join fleets of recently acquired Boeing 737s and McDonnell Douglas MD-80s. The Short aircraft will provide feeder services to main airports.

Short has already penetrated the Far East with sales of 380s to Malaysia and the smaller 330 to Thailand. It believes the Chinese order will give it a solid foothold in a market hotly contested by rival manufacturers from Canada, Sweden, Brazil and Spain.

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Whitehall  
plans help  
for small  
businesses

by Ian Hamilton Fawcett  
and William Dawkins  
GOVERNMENT has  
proposed the creation  
of a new department  
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for the co-ordination  
of government policy  
towards small business.  
The new department  
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## FINANCIAL TIMES

BRACKEN HOUSE, CANNON STREET, LONDON EC4A 4BY  
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Tuesday February 5 1985

An evasive  
U.S. Budget

IT IS EASY to see why the markets, after one look at President Reagan's Budget proposals, concluded that the deficit is here to stay and promptly marked up the dollar another notch. The President has offered some highly unpopular proposals. Nevertheless, even if they were adopted by Congress, which nobody expects, and even if the administration's optimism about U.S. growth is justified, which may well be more likely, despite the scepticism of many economists, the deficit would only be modestly reduced over the next two years. The President's claim that this would at least initiate a permanent downward trend in the deficit is also hard to swallow. The future growth of entitlement programmes, through the ageing of the population, might well start the trend upward again.

## Possibilities

The President is no doubt aware that his proposed \$300m increase in defence spending will not be accepted in Congress, and has therefore offered up some sacrificial proposals. That alone would shave the deficit a little; but at the same time, some of the proposed cuts in civil expenditure will be blocked by special interest groups. The attack on farm supports is already coming unravelling. It seems unlikely that horse-trading over the items in the President's Budget will produce a better outcome than the one he projects.

That leaves the possibilities which are not discussed—an attack on social security contributions, or an increase in tax revenues. The President firmly ruled out both these possibilities, while reiterating his devotion to the idea of a balanced

Budget. Since not even an electoral landslide can empower the President to repeal the laws of addition, he is convinced by the situation leaving the most unpopular decisions to Congress.

## Entitlements

Indeed, the President has already started to hint at the unpopular decisions he would "reluctantly" accede to, by saying that if faced with an overwhelming Congressional vote to attack social security by suspending indexation, he would have to reconsider his position. An outright proposal to increase tax rates probably would bring down a Reagan veto, but some of the less direct proposals now circulating to reduce deductions against tax liability—the most straightforward being a 10 to 20 per cent cut in total deduction entitlements—might again sneak by. It is therefore probably within the power of Congress to produce a Budget which would make a serious dent in the deficit, but it is an odd kind of leadership which does not even begin to point the way. Again, market scepticism seems justified.

## Proposals

In one respect, however, both the President and his Congressional critics miss a point—indeed, do the markets. This is that the tax simplification proposals promised for later this year could address the deficit far more effectively than any likely Budget compromise. By 1990, as the proposals show, debt service will account for the whole of the projected Federal deficit. A reform which enabled the tax shelters which enable most others, and force the rest—notably the U.S. Government itself—to pay record real rates would do more than anything to bring both the deficit and the dollar into the realms of sustainable economic reality.

The taxation  
of pensions

AS THE Meade Committee noted in 1978, the taxation of pension funds is theoretically almost ideal. The tax-deductibility of contributions and the tax-free accumulation of investment income is balanced by the full taxation, as income, of pensions in payment. The deferral of tax until pensions are actually paid out is economically efficient: the pre-tax return on the underlying investment and the post-tax return to savers are equalised.

There is only one clear anomaly: the treatment of lump sum payments. Tax-free lump sums which have been accumulated out of tax-free contributions are no less than officially sanctioned tax shelter. The concession should be phased out, starting on 1989, as fast as is consistent with the Chancellor's pledge of no retrospective legislation. The simplest method would be to announce in the Budget that the fraction of a lump sum which is tax free is to be progressively reduced from 150 per cent of final salary today to zero in five to 10 years' time. This would involve some rough justice—not least in the public sector, where lump sum payments have become traditional. But some price has to be paid if tax reform is to be more than an aspiration.

Lump sums aside, the taxation of pension funds is eminently logical. Unfortunately, the taxation of other savings media is not. Liability to tax cannot be deferred until the proceeds from savings are run down. Pension funds' ability to defer tax is a considerable advantage which goes a long way to explain their rapid growth and the crowding out of direct personal investment.

## Dilemma

The unique treatment of pension schemes presents the Chancellor with a dilemma. Theoretically, the most attractive solution might be to follow the Meade Committee's advice and attempt to put other savings media on a comparable footing. But the abolition of tax relief for life assurance premiums last year suggests Mr Lawson has rejected this approach. If so, he has little option but to

remove the funds' unfair advantage: like other forms of saving, they should bear the double taxation implicit in an income tax system.

This means either that contributions should cease to be tax-deductible or that investment returns should be taxed. The first option appears to be impractical. The part of pensions in payment which reflects contributions would deserve to be tax exempt, but could not be easily distinguished from the accrued income. In any case, companies might shift to unfunded schemes, thus ensuring that pension costs remained a business expense. The second option looks rather more feasible, though by no means easy. It ought to be possible to tax some measure of funds' total investment return. An inflation adjustment would be desirable because a levy on nominal gains could result in negative post-tax returns, funds could justifiably claim that this would undermine the long-run economics of schemes.

## Difficulties

The pensions industry is likely to stress the practical difficulties of taxing real returns and the likely impact on contribution rates. These problems need not be insuperable. While a modest cut in benefits or rate in contributions might be necessary, the very large surpluses of many funds suggests the adjustment might not prove too onerous.

Actuaries might be well advised to co-operate in devising a sensible tax on real returns which could contribute to fiscal neutrality in the longer term because the alternatives might be worse. The funds' surplus are a temptation and Mr Lawson could resort to the sort of "windfall" levy Sir Geoffrey Howe introduced in clearing banks in 1981. Alternatively, the Inland Revenue might try to insist that funds which are in surplus should lower contribution rates, thus boosting corporate profits and, with luck, corporation tax receipts. Neither of these opportunistic revenue-raising measures would do anything to foster fairer taxation in the savings market or the rational provision for old age.

**A**IRBUS INDUSTRIE, the European airliner manufacturing consortium, is flying into a bout of turbulence over its future management structure—just at the time when competition with Boeing, the world's No. 1 airliner company, is widening into a full scale battle of the skies.

A split between its French, West German and British shareholders over the organisation of the consortium has come to a head in a squabble over the choice of a new chairman to succeed France's M Bernard Lathiere, who has just stepped down after 10 years in the job.

The tussle coincides with a turning point in Airbus's 15-year-old effort to challenge Boeing's dominance, built on mastery of the aircraft industry's long production schedules and no-holds-barred marketing techniques.

With its production range being significantly widened, and a former footing established in the U.S. following last autumn's ground-breaking deal with Pan American World Airways, Airbus is moving ever deeper into Boeing territory.

But, at the same time, the European governments which up to now have been the main paymasters of the Airbus development programme are becoming more festive over whether they are getting value for money.

The dispute among shareholders in the four-country consortium—which groups Messerschmitt Boelkow Blohm of Germany, British Aerospace and CASA of Spain—is about whether the consortium should be a permanent entity or a temporary sides of Airbus should be brought closer together.

M Roger Betteille, the general manager, who is himself shortly to retire for health reasons, was appointed on Friday night to take over on an interim basis from M Lathiere. The French candidate, M Jean Pierson of Aerospatiale, seems likely to chair the over-riding committee. But his formal appointment has been delayed while the consortium decides a possible new management structure.

The need for a tighter grip is a result of the consortium's petition with Boeing. Airbus needs more flexibility in its relatively unwieldy production arrangements to stay in the game with the American giant.

IF YOU ask Boeing executives for the key ingredient in successful commercial aircraft sales today they give a totally unhesitating reply. Finance, they say, has dictated virtually every big order since 1982—and they do not like this trend one little bit.

"We believe that a deal should be determined by product quality and product utility, not by the finance on offer," says Mr Thomas Riedinger, director of marketing communications.

What we want is product competition, not financing competition."

It is not difficult to identify the target of Boeing's dislike of the financing weapon. The European Airbus consortium ranks very high in the Seattle-based company's list of "undesirable" customers, not so much because of the Airbus product—many Wall Street analysts say that Boeing is far more afraid of a resurgent McDonnell Douglas—but because it believes the European company's sales techniques are destabilising the market.

## Ross returns to market

Stanley Ross, one of the more colourful figures in the Euro-bond market, is back in business again. He started work yesterday as an executive director of Deutsche Bank's new London subsidiary.

Ross quit as chief executive of Drexel Burnham Lambert Securities, previously called Ross and Partners last September. After a five-month sabbatical, Ross is back in harness, trading bonds. How does he find being part of a big, structured organisation rather than running his own show?

"Being in a big organisation can be fun," he explains, and adds, "it's one thing to be a maverick at 45 but another thing at 60."

Deutsche Bank is planning to move its non-Germanic market bond issuing business to London and beef up its trading activity. Perhaps Ross will be starting a screen trading service as he had at Ross and Partners.

But the daily jokes, formerly a feature of the Ross screen and much loved in the market, may well be quite the Deutsche bank style.

**Cowgill's patch**

Bryan Cowgill, the combative managing director of Thames Television, may have taken the first round by winning the American oil industry saga, Dallas, from the BBC.

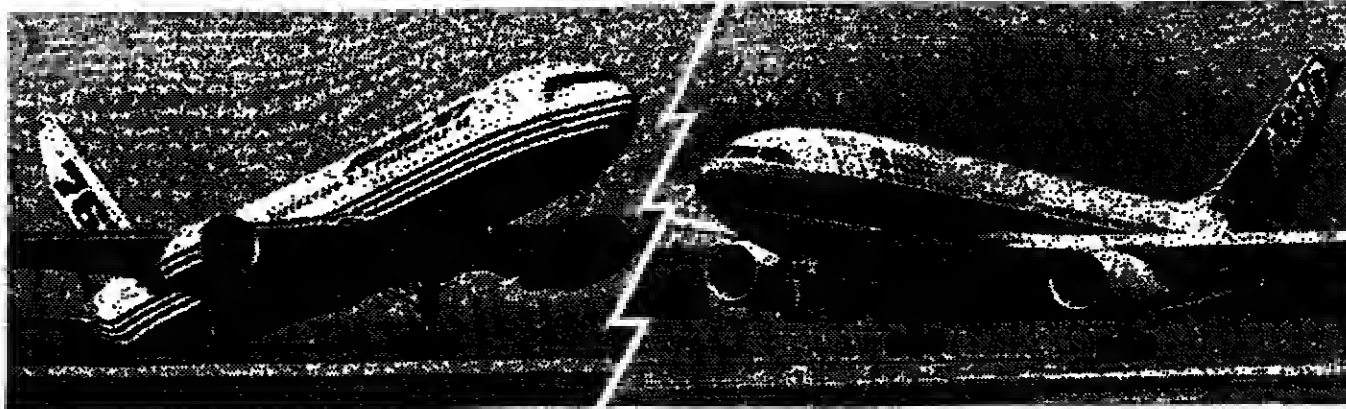
He may even have won the second round when he told IBA director-general, John Whitely, that he had no intention of giving it back to the Beeb.

But the betting is that Cowgill will not emerge from the affair without at least a blooded nose.

Until he started making it over JK, Cowgill was firm favourite to succeed Lord Buxton, when he retired as chairman of Independent Television News.

But many of the ITV barons—less than amused by Cowgill's belligerent (and swi) at the BBC just as they were negotiating their Channel 4 subscriptions—now seem

## BATTLE OF THE SKIES



Two key rivals in the marketplace: the Boeing 747 and the A-310 Airbus

Turbulence on two fronts  
for Europe's Airbus

By David Marsh in Paris

And on the financial side, the present structure of the consortium—which has no capital of its own and has never published a profit and loss account—has severe limitations.

The marketing-oriented management team at the Airbus Industrie headquarters at Toulouse is keenly aware that it has no funds of its own to back decision making.

Airbus admits, for instance, that—partly because of lack of communication among the shareholders—it has no precise idea of the production costs of the aircraft it sells. Under the present management structure, financial control is a relatively minor responsibility.

Underlying diverging philosophies between the Airbus management and the more conservative shareholders, M Pierre Pilleret, vice-president in charge of marketing and the architect of last year's Pan Am deal, says he is now having a tough time persuading share-

holders of the need to boost Airbus's production rates. These have been cut savagely—to an estimated 33 to 35 this year—in response to the airliner recession of the last two years.

M Pilleret's optimism is only partly dimmed by the fact that the bulk of the potentially \$2bn Pan Am deal is not yet formally signed.

The order book is sufficient to cover the next two years' anticipated output, and the number of totally uncommitted "white" talks "on the drawing board" is now down to only nine because of the Pan Am deal. M Pilleret argues that this means he runs the risk of being caught napping if airlines decide they need readily available aircraft.

"We're pushing our partners hard to raise production. We would like at least 40 (aircraft) next year," says M Pilleret. For the first dozen years of Airbus's existence, the lack of

that broke out over Airbus's breakthrough sale of A300s to Eastern Airlines a few years ago was whipped up by other airlines who were upset about the easy terms given to the carrier.

A similar argument is currently being used by some analysts critical of Airbus's Pan Am deal announced last year. Financing had to be paramount in the decision to purchase the airbuses, says one executive close to the negotia-

tions, because it was made clear from the start that the deal would have to be off-book—a reference to the leasing arrangement which will keep the new aircraft off Pan Am's fragile balance sheet.

Whatever Boeing's misgivings about current marketing trends, however, it still hushes with the confidence born from decades of success. Among the strengths which executives trot out are the following:

First, Boeing has an enormous customer base, with over 4,500 commercial jets delivered to more than 400 different operators, against only 400 or so aircraft shipped by Airbus.

Secondly, the company has come up with new marketing methods of its own which to some extent counter both Airbus's aggressive policies and the impact of the rise in the dollar in international markets. By setting up a new organisation to refurbish and sell used aircraft, Boeing has smoothed the way for several new aircraft sales.

Thirdly, Boeing has tackled its cost structure in a radical manner over the past couple of years, most notably in a peacetime new labour contract which has established much wider differentials between new recruits and skilled workers.

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Even though execution of Airbus purchases is dependent on Pan Am signing a crucial labour agreement with its unions, he predicts a firm contract (originally expected by the end of last year) will be signed in the first quarter of this year.

Prices for the Airbus jets—just under \$50m for A-310s, just over \$55m for A-300s, and \$60m each for A-300s being delivered under a new-contract leasing arrangement—were at the bottom end of Airbus's normal range. But M Pilleret rejects charges from Boeing that Airbus can afford to discount heavily because of the strength of the dollar and government subsidies.

"Boeing is not scared of us," says M Pilleret—who flew to New York 15 times last year to stitch together the Pan Am deal. "But they have good reason to be nervous about what we are doing. They now accept that we are going to be around in 20 years' time."

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## PARTY COMPROMISE AVERTS IMMEDIATE THREAT TO POWER

## Tanaka's primacy under fire

BY JUREK MARTIN, FAR EAST EDITOR, IN TOKYO

MR NOBUO TAKEHITA, the Japanese Finance Minister, has come close to challenging directly the undeniable control that Mr Kakuei Tanaka, the convicted former Prime Minister, exerts over Japanese politics.

An outright confrontation between the two men appeared yesterday to have been averted, but the implications of political mortality now laid at Mr Tanaka's door has Tokyo buzzing with excitement.

What Mr Takehita did looks harmless enough, but not by the lights of domestic politics, which revolve so much around personal fiefdoms. Last week he announced his intention to set up what is known as a "study group", which is a standard device to promote the cause of would-be party leaders and prime ministers.

Mr Takehita has been widely ac-

knowledgeable as one of the favourites to succeed Mr Yasuhiro Nakasone within the next two years, along with Mr Shintaro Abe, the Foreign Minister, Mr Kiichi Miyazawa, the senior party official and former cabinet member, and perhaps Mr Sumu Nakaido, the ageing but suddenly ambitious party vice-president.

The difficulty is that both Mr Takehita and Mr Nakaido belong to Mr Tanaka's political faction, the largest in the ruling Liberal Democratic Party. Since resigning as Prime Minister in 1974, Mr Tanaka has never permitted a member of his faction to stand for the party leadership.

Indeed, only last year he expressly forbade Mr Takehita from challenging Mr Nakasone and later reprimanded Mr Nakaido for being involved in last autumn's unsuccessful plot to unseat Mr Nakasone.

Mr Tanaka had been instrumental in putting in power in 1982.

This time, when he heard that as many as 80 to 90 of his 120-strong faction might join Mr Takehita's new group, Mr Tanaka concluded it smacked too much of a faction within a faction.

Once he might have squashed such *lèse majesté* without a further thought, but there is a restiveness abroad now both in his faction's younger rank and file and among some of its senior members; two of those, Mr Takehita and Mr Nakaido, have made their ambitions clear, while an influential third, Mr Shin Kanemura, is LDP secretary general and an open supporter of Mr Takehita, to whom he is related by marriage.

The agreed compromise, negotiated, almost inevitably, by the arch-middlemen, Mr Nakaido and

Mr Kanemura, is quintessentially Japanese in that everybody will save face. Mr Takehita's study group will be inaugurated on Thursday night, but the occasion will take place in Mr Tanaka's offices, not in a downtown hotel, and only about 30 members will sign up.

On the previous evening, there will be a special meeting of the full faction to reaffirm its unity, under Mr Tanaka, of course, but Mr Takehita will be given a new factional post that recognises his importance and Mr Nakaido will not lose out in consequence.

The net result, however, is that Mr Tanaka appears to have been obliged to give way, which is not exactly his wont. If the perception that his iron grip is weakening gains hold, the equations that comprise Japanese politics will have been subtly changed.

## Europe's wise men bow down to the U.S. boom

By Jonathan Carr in Bonn

THE MOTTO of this year's Davos symposium, which brought together more than 600 top international executives and political leaders, could well have been "The entrepreneur as Superman". A car sticker produced for the occasion shows a dynamic businessman soaring heavenwards, evidently leaving problems of recession and debt far behind him.

Appropriately the figure on the sticker looks a bit like Ronald Reagan, for the U.S. is largely responsible for the mood of optimism that prevailed at the week-long gathering. The U.S. economy is clearly felt to be pulling off something of a miracle — so far — and the rest of the world wants to know the magic formula.

So it is that, in marked contrast to the last year or two at Davos, mournful discussions on the debt crisis and the possible dislocation of the world's monetary system receded into the background. Instead, both in formal sessions and informal talks, the accent was on deregulation, "privatisation", "promotion of individual initiative" and other elements associated with the "Reagan miracle".

For all the buoyancy of the meeting, the same nagging questions have emerged time after time — albeit not strong enough to destroy the mood. Could it be that the U.S. boom will go bust and the dollar plummet because of the record budget and current account deficits? And, if so, what will be left of that vision of the U.S. superman saving into a "new entrepreneurial era"?

Mr R. T. McNamara, Deputy U.S. Treasury Secretary, clearly had no doubts. In his view, the dollar was strong because international investors had decided the U.S. economy was performing relatively better than others and had placed their funds accordingly. If the U.S. reduced its budget deficit as it planned, Mr McNamara said, that would be one more reason for foreign confidence. In other words the dollar could well become stronger still.

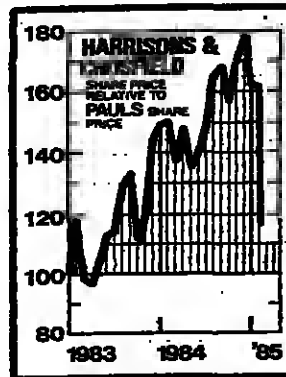
He warned the Europeans that the U.S. was building up a big advantage over their "more structurally rigid and overly regulated economies" and "we will continue to out-perform you until you change".

Many Europeans were irritated by Mr McNamara's sharp tone but thought that there seemed to be a lot in his analysis. It was U.S. executives who seemed most disturbed by the vision of still greater foreign confidence in their country and its currency. "Our sales have been increasing in Europe," noted Mr Rand Arnsperg, chairman of I.T.T. "But our reported results in dollars show a significant decline."

That, he indicated, could not go on indefinitely.

## THE LEX COLUMN

## Biological urges at Volvo



The acquisition by Volvo of a 26.6 per cent voting interest in Pharmacia, the Swedish pharmaceuticals group, was presented by the motor company yesterday as an important contribution to Sweden's biotechnology industry. Well, maybe. The more sceptical simply took the deal as fresh evidence that Volvo's cash balances are burning a hole in the corporate pocket.

Volvo is certainly in a most unusual predicament. Hemmed in by a dividend freeze and exchange controls it finds itself the custodian of liquid assets which totalled about SKr 12bn at the end of last year.

There is a limit to the number of car and truck plants Sweden can comfortably accommodate, so diversification looks the only way of using up the cash.

This is perhaps an uncharitable view but Volvo shows no sign of abandoning a diversification strategy which to date has produced very mixed results. The company already has interests in biotechnology but the general view in Stockholm yesterday was that management time could be better spent sorting out problems in the troublesome SIC oil-trading business.

Last year's disposal of Volvo of its 25 per cent holdings in Atlas Copco and Stora Kopparberg suggested that the company had abandoned, at least for the time being, any ambition to build a portfolio of companies to rival the Wallenberg collection.

This latest deal does not bring Volvo into direct conflict with the Wallenberg interests, as the earlier transactions did, but that will be of precious little interest to overseas shareholders who thought they were investing in a motor company rather than an Oppenheimer of the North.

## Harris/Pauls

The board of Pauls may have been a little temperate at the weekend by insisting even before it saw Harris & Crossfield's bid that independence was in shareholders' best interest.

Reaction to yesterday's terms suggests that Harris has not yet delivered a knockout blow. Pauls' shares closed at 345p, up 92p for a 26.6 per cent increase on the share price of 25p above the cash alternative.

The bid does make commercial sense for Harris. Having sold majority stakes in its Malaysian

plantations, it has both the cash and the inclination to start buying in the UK. The industrial fit is about as close as Harris could get given the lack of palm oil plantations in Britain.

The timing is pretty good. Harris has caught Pauls after its fat has been trimmed but before shareholders have seen the results. The acquisition could be made with very little earnings or asset dilution on either version of the offer.

But with Harris's hands-off management style, Pauls would probably be run much as it is now. So the only practical advantage to Pauls might be lower gearing. Pauls debt now hovers around 50 per cent of shareholders' funds for the combined group that would fall to 12.6 per cent if everyone took the share offer, or 40 per cent on 100 per cent cash acceptance. Pauls is not, however, in any financial trouble and could not doubt raise any cash it needed.

While Harris reconsiders its offer, it may need to keep an eye over its shoulder for counter-bidders. Obvious competitors of Pauls like Daley or Unilever could run up against monopoly problems, but Bibby might well get away with it. There must also be plenty of foreign food manufacturers who look at the level of sterling and think Pauls is cheap at the price.

## Hillsdown

If Hillsdown Holdings were a plain old food-manufacturing company with a profit record typical of the sector, the UK tender offer which closes tomorrow would attract a striking price of around 115p and everyone would go home happy, and rather bored.

As it is, London stockbrokers

have shown fraternal unanimity in assuming quite a hefty premium in the sector, with a striking price of between 125p-130p. There is considerable enthusiasm for an aggressive if not very public management, the issue is small and Hillsdown's tax charge will take some while to rise to the sector average. At 130p, the company would raise around £37m net of costs and the reduction in interest payments this year would have a substantial effect on earnings. Moreover, Hillsdown should be well placed to buy growth from troubled companies, even if the resurrection effect may be getting harder to repeat.

Despite scepticism on this score, institutions may be looking to rebuild their holdings in a sector rather depopulated of late; those interested in hanging on to Hillsdown beyond the end of the account might do well to tender generously.

## Currencies

A contentious budget plan that nobody believes in can go down very badly from a Government's point of view. The industrial fit is about as close as Harris could get given the lack of palm oil plantations in Britain.

The timing is pretty good. Harris has caught Pauls after its fat has been trimmed but before shareholders have seen the results. The acquisition could be made with very little earnings or asset dilution on either version of the offer.

But with Harris's hands-off management style, Pauls would probably be run much as it is now. So the only practical advantage to Pauls might be lower gearing. Pauls debt now hovers around 50 per cent of shareholders' funds for the combined group that would fall to 12.6 per cent if everyone took the share offer, or 40 per cent on 100 per cent cash acceptance. Pauls is not, however, in any financial trouble and could not doubt raise any cash it needed.

## Pentagon may vet exports to allies

By Nancy Dunne in Washington

THE PENTAGON has been empowered to review some high-technology exports to America's closest defence allies in addition to sales to 15 other non-communist countries as a result of a recent White House decision, say trade sources in the U.S. capital.

A confidential memorandum, authorised on January 4 by the White House after failure by the Commerce and Defense departments to settle their long-running dispute over jurisdiction of licensing authority for trade in strategic goods, gives the Pentagon review rights over seven categories of products.

The 15 countries suspected of being conduits to high-tech sales to Comecon, according to two Washington trade publications, are Austria, India, Finland, Sweden, Hong Kong, Switzerland, West Germany, Libya, Syria, Malaysia, Singapore, Iran, Iraq, Spain and South Africa.

The memo directs the Commerce Department to specify that the listed countries will not exceed 15 at any one time.

A complicated procedure has been established for placing CoCom members on the suspect list if warranted. If the Pentagon requests the addition — and the Commerce Department disagrees — then the matter is referred to a special Administration committee. Ultimately, an appeal can be made to the President.

The memo directs the Commerce Department to send to the Pentagon and State Department for analysis a compilation of strategic export cases processed during the previous quarter and involving exports to CoCom countries.

The products specified for review include electronics and semiconductor manufacturing equipment, measuring and calibration equipment, microcircuits and integrated circuits, computers, silicon and other components, sapphire substrates and carbon-carbon technology and manufacturing.

At the insistence of the Commerce Department, which is concerned that the Pentagon review capability will cause delays in the already lengthy export licensing process, strict deadlines have been set up for Pentagon input.

The Defense Department must notify the Commerce Department within seven days of receiving an application if it wants to exercise its review rights. It then has 15 working days after referral to examine the licence request and state any specific objections.

Disagreements would then go on to a technology transfer steering group, which is weighted heavily in favour of national security.

The January 4 memorandum is said to direct establishment of a computer link between the Commerce Department and the Pentagon for information exchange.

## New Delhi businessman says he passed secrets for 25 years

BY JOHN ELLIOTT IN NEW DELHI

A NEW DELHI businessman at the centre of India's spy scandal yesterday claimed that he had been passing secret defence and political information to France, East Germany and Poland in an operation he had conducted for 25 years.

The confession by Mr Comer Narain, which considerably widens the scope and significance of India's biggest spy scandal, was given in closed court yesterday, a few hours after two senior civil servants, whose office staff had leaked documents to the businessman, left their ministries on permanent leave.

Mr Narain, a senior civil servant, was Mr C. S. Sarda, production secretary in the Ministry of Defence (equivalent to the second permanent secretary in the UK), and Mr A. S. Bajaj, an additional secretary (equivalent to deputy secretary) in the Ministry of Finance.

Mr Sarda was in charge of all the Government's defence production and purchasing, including foreign contracts, while Mr Bajaj was responsible for all financing arrangements made by India with other countries and international agencies.

The two men's personal assistants had been arrested for passing information to Mr Narain, the Delhi representative of S. L. Madhwal, a Bombay-based trading company.

The assistants had access to almost every important defence and economic plan and contract drawn up by India.

Mr Narain said he had made millions of rupees out of his activities and confirmed speculation that the leaking of confidential documents had started with economic and industrial activities and later spread into sensitive areas such as defence production, political planning and India's relations with other countries.

He said he started by visiting various embassies in New Delhi, obtaining foreign contracts for his own company. In exchange he passed on Government secrets. Civil servants and embassy contacts visited his Delhi office, where documents were photocopied.

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In another confession, Mr S. Saran, former private assistant to the President of India's press secretary, said he was only paid 50 to 200 rupees (\$3 to \$14) for information.

East Germany and Poland were mentioned yesterday for the first time in connection with the spying. Mr Narain is also believed to have confessed that he passed information to another country in the West and to one in Asia.

France has been implicated since the scandal broke just over two weeks ago when its deputy military attaché was withdrawn from Delhi. Its ambassador to India is also being recalled to Paris as a gesture by the French Government that it wishes to appease India, which has pressed for action.

France has told India, however, that it expects its new nominee for ambassador to be approved, as is customary, within a few weeks, so deftly indicating that it is up to India to decide whether to deepen the diplomatic rift.

France has assiduously courted India for some years.

Mr Roy Anderson, chairman, said that last year's increase in earnings was largely attributable to revenues from the company's newer programmes, such as the Trident II missile, space shuttle ground processing and the Milstar space-based constellation of communications satellites — units that are made to operate under extreme conditions.

By the end of the year, total orders booked amounted to \$22.8bn against \$19.6bn a year earlier.

Turbulence for Airbus, Page 14

## Lockheed earnings jump 31%

BY TERRY DODSWORTH IN NEW YORK

EARNINGS at Lockheed, the leading Californian-based defence and aerospace company, soared by 31 per cent last year to \$344.1m, as it benefited from a strong performance in its military and space programmes.

The results easily set a record for the group, which only three years ago declared a loss of \$312m. Since absorbing that deficit and abandoning its L-1011 TriStar, Lockheed has engineered a dramatic profits recovery, earning \$207m in 1982 and \$233m the following year.

The 1984 earnings, the equivalent

of \$3.26 a share, against \$4.16 a share the previous year, were achieved on sales of \$8.1bn compared with \$6.5bn in 1983.

Fourth-quarter net income amounted to \$108.6m, or \$1.65 a share, against \$83.6m, or \$1.30, while sales jumped from \$1.9bn to \$2.5bn.

Lockheed, which resumed dividends in the second quarter of last year after a 14-year lapse, has also substantially strengthened its balance sheet in the last 12 months. Net worth increased during the year by \$326m to \$1.15bn, while

debt was cut from \$670m to \$428m at year-end.

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Turbulence for Airbus, Page 14

## Over 2,000 miners return

Continued from Page 1

Some board officials had hoped for an even greater return to work yesterday after the failure of last week's "talks about talks". Mr Michael Eaton, the NCB's spokesman, said, however, that the return was in line with predictions. He forecast that the trend would continue. Mr Scargill claimed that the board's figures for returning miners were "wildly exaggerated".

Mr Pat Lowry, chairman of the conciliation service Acas, will today meet senior NCB management after a meeting yesterday with Mr Scargill. He insisted that he was only acting as a communicator. No new initiatives seem to have been raised in these discussions.

The Commons debate was the first to have been held on the dispute for three months.

## Israeli Cabinet approves currency-outflow curbs

BY DAVID LENNON IN TEL AVIV

THE ISRAELI Cabinet last night approved a series of steps proposed by the Treasury to stem the drain on Israel's dwindling foreign currency reserves.

Among the new measures are a doubling of the travel tax for Israelis going abroad to \$200; imposition of a 15 per cent tax on airline tickets for overseas travel; an increase in the special deposit for imports from 40 to 60 per cent; and an increase in the special tax on car purchases from 2 to 3 per cent.

The Cabinet also altered the terms available on savings in dollar-denominated accounts. These accounts will bear interest only after three months as until now.

These moves are aimed at slowing the continuing erosion in the country's foreign currency reserves which fell by \$855m in the past three months to \$2.3bn.

Most economists believe the measures will have only a minor impact on the outflow of foreign currency because about 90 per cent of this is caused by the servicing and repayment of the foreign debt of some \$20bn, and the budget deficit.

Mr Yitzhak Mordechai, Finance Minister, had recommended even more drastic measures including higher property taxes but these were rejected by senior cabinet ministers.

Israel was rife with rumours yesterday of an imminent large devaluation — as recommended recently by the U.S. — along with other stringent measures to bring the economy under control.

## \$ continues record climb

Continued from Page 1

tervention was relatively modest — probably about \$80m to \$100m. Earlier, there were reports that the Japanese central bank was selling \$200m to \$250m in the Far East.

The increased scale of British official intervention in the currency markets was indicated yesterday by figures from the Treasury showing that its gold and foreign currency reserves fell by an underlying \$282m in January to \$15.521bn.

That indicated a considerably larger scale of intervention than at any time since the winter of 1982. The fall in the reserves then was much larger, however.

At a dinner in London at the Overseas Bankers' Club yesterday Mr Nigel Lawson, the Chancellor of the Exchequer, emphasised the use of interest rates as a policy weapon.

## World Weather

Area	°C	°F	Area	°C	°F
Amman	17	63	London	5	41
Amman	17	63	London	5	41
Amman	17	63	London	5	41
Amman	17	63	London	5	41
Amman	17	63	London	5	41
Amman	17	63	London	5	41
Amman	17	63	London	5	41
Amman	17	63	London	5	41
Amman	17	63	London	5	41
Amman	17	63	London	5	41

## Reagan seeks deep spending cuts

Continued from Page 1

million) military build-up, see his \$313.7bn defence spending proposal as an opening position in the tough bargaining process with Congress which will now ensue.

"It is not a question of whether it (the defence budget) will be cut, it is a question of how much it will be reduced," said Senator Sam Nunn, the senior Democrat on the Republican-controlled Armed Services Committee. Senator Barry Goldwater, chairman of the Senate Armed Services Committee and a key figure in the defence debate, said the defence budget "can and will be reduced." The President is proposing

a 6 per cent rise in defence spending in real terms.

The President and Mr David Stockman, his budget director, expect a tough battle with Congress over the spending cuts as well as on defence. Although many analysts believe Mr Reagan will secure many of the changes he wants, a stalemate on deficit reduction this year is still not completely ruled out.

"These are big programmes. They have powerful and big constituencies behind them, but in the fiscal circumstances we face today we have no choice but to reform them."

Mr Stockman said yesterday in defending the programme.

He stressed, too, that the Administration believes its proposals, which target the middle classes for a big share of the reductions in federal subsidies, "recognise our social contract with the poor, the elderly and the disabled."

The economic assumptions which the Administration is making for 1985 and beyond are not substantially different from those which were made a year ago, although there has been a reduction in its estimates for interest rates in 1985, 1986 and 1987 which helps to yield some savings on debt service costs.

## ADVERTISEMENT

## NEWS REVIEW

BUSINESS  
£1m Ferranti laser gyro contract

A contract worth £1m has been awarded to Ferranti Defence Systems by the Ministry of Defence to provide 2 production laser gyro strapdown inertial navigation systems for evaluation in a high performance military aircraft environment.

Nine years of development work has been jointly financed by the Edinburgh-based Navigation Systems Department of Ferranti and the MoD. Under the new contract 2 production standard units, meeting ENAC-77-1, the stringent USA Air Force standard, are to be supplied by January 1986, for flight trials by the Royal Aircraft Establishment at Farnborough.

## Defence simulator

An order worth over £1m from the newly-formed School of Fighter Control (UK) Limited has been received by Ferranti Computer Systems, Bracknell Division, to supply an air defence simulator. The simulator will comprise four dual radar control positions, each capable of displaying, independently, high resolution graphics representing any country's airspace.

## Briefly . . .

The Display Systems Department of Ferranti Defence Systems, Edinburgh, has developed a portable map related display demonstrator for the Royal Signals and Radar Establishment, Malvern.

OFFSHORE  
Total commitment

Ferranti Offshore Systems (FOSL) has been awarded contracts with a total value in excess of £4m by Total Oil Merinor plc for the supply of control systems to the Alwyn North drilling and production platforms.

AVIONICS  
Total briefing system

A £200,000 contract to develop a Total Avionics Briefing System (TABS) for the RAF's Jaguar aircraft has been awarded to Ferranti Defence Systems, Display Systems Department, Edinburgh.

TABS will be based on an updated version of the original Ferranti Autoplane — a computer aided mission planning system. The new system will

use a flight approved Portable Data Store (PDS) which has been designed to interface with the programme loading unit of the F106 navigation and weapon aiming system during the flight. On completion of the mission the PDS can then be removed from the aircraft for a detailed analysis during debriefing.

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## FINANCIAL TIMES SURVEY

## Manufacturing Automation

The potential for streamlining manufacturing techniques has never been greater. Advances in computer control enable Western manufacturers to resist competition from low-cost countries.

## Pressure to innovate

By Ian Rodger

"INNOVATE OR EMIGRATE." That chilling slogan is being adopted by an increasing number of Western manufacturers, as they face growing pressure from competitors with low-cost operations in developing countries.

Fortunately, the potential for innovation in manufacturing has never been greater than it is today, offering a real alternative to emigration. The so-called advanced manufacturing technologies (AMT) offer major opportunities to makers of most engineered products to cut costs and improve quality and service to the customer.

The key attribute of AMT is flexibility. Machinery has long been available to automate long, high-volume production runs such as those found in the car industry or process industries.

As recently as a year ago, AMT was still considered by many experts to be a "missionary" sell. In other

words, it was so new that most potential users, particularly smaller manufacturers, had to be convinced that it was available and worked.

That period is now clearly over. In the past year or so, a number of advanced systems have been installed, proving the practicality of AMT in a wide variety of applications, from sorting shoes to making wiring looms for complex machines. And many more are on the way.

The boom predicted for the suppliers of equipment and software for the shop floor is now occurring, with some sectors, such as robotics and computer-aided design, growing at over 30 per cent a year. By 1990, the entire AMT industry is expected to have annual sales of more than \$30bn, which would be quite an achievement for an industry that is still very much in the embryo stage.

Indeed, it is still difficult to predict the ultimate shape and structure of this industry. A year ago, it looked as if the giant electrical and electronic companies, such as IBM and General Electric of the U.S., were going to march in and take away the leadership of the industry from machinery makers.

But that has not happened so far. Instead, the main contractors on big AMT projects have tended to be the leading specialists in a particular

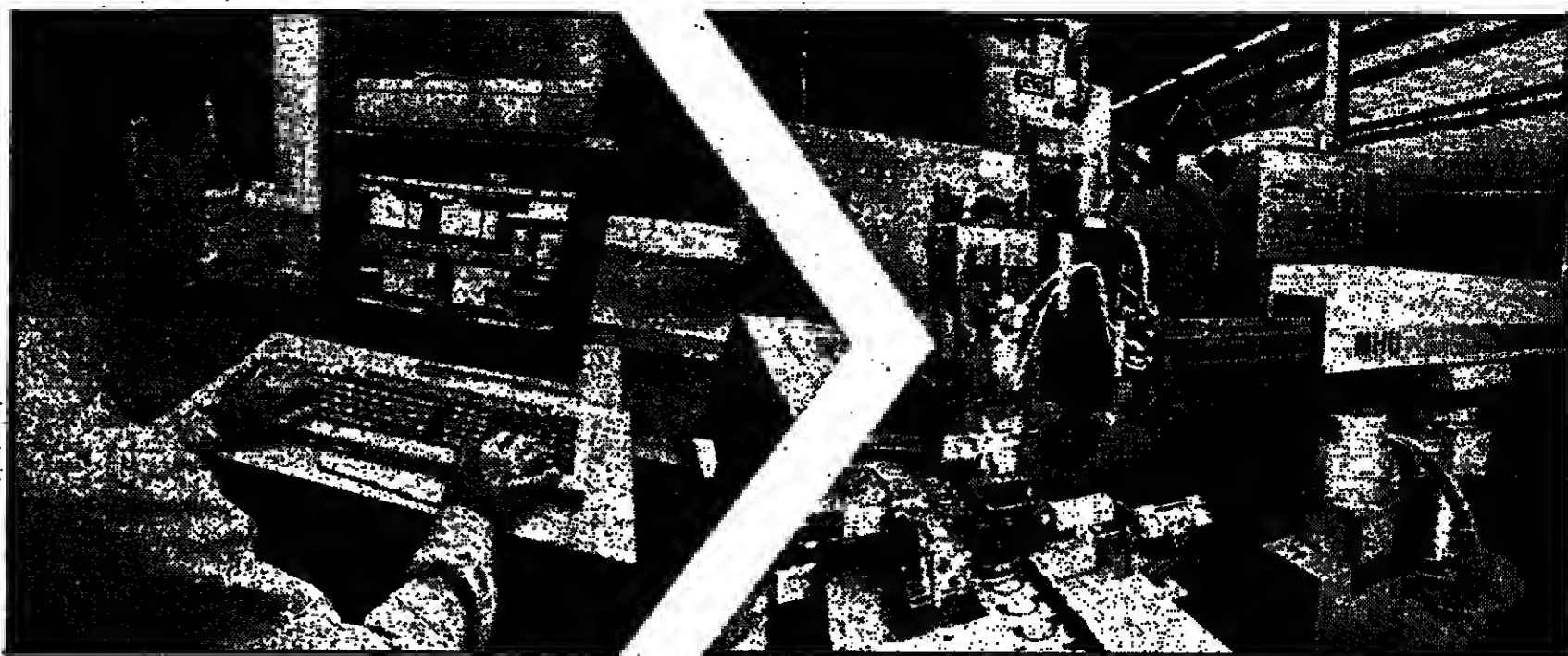
sector. For example, almost all the major flexible manufacturing systems (FMS) built in the last couple of years have been made by the top machine-tool builders, such as Cincinnati Milacron, Ingersoll International, and White of the U.S., Comau of Italy and Schenck of West Germany.

Similarly, the big contracts for materials handling systems have been won by companies such as BT of Sweden and Jungheinrich of West Germany.

However, there is no doubt that the importance of electronics will continue to increase, especially as attempts are made to achieve what is often called "computer-integrated manufacturing" (CIM), that is, linking various islands into integrated systems under the management of computers. And it is reasonable to assume that the makers of computers will play a larger role in the development of these systems.

General Electric of the U.S. has been among the most enthusiastic of the big electric companies about the AMT market, buying Calma, the computer-aided design company a few years ago and taking out licences to make several Japanese robots. It also makes programmable logic controllers (PLCs), motor drives, sensors and lasers.

Westinghouse acquired Union, one of the top U.S. robot makers, for \$107m in 1983.



Computer control (left) of the grinding line for Rolls-Royce RB-211 engine turbine blades

IBM has become one of the leading suppliers of CAD systems and last year made an arrangement to supply its personal computers for use as programming aids on Cincinnati Milacron machine tools.

Elsewhere, Britain's General Electric Company has entered the AMT market. Its electrical projects division has undertaken projects at two sister companies and recently set up a joint venture with British Aerospace to do others.

Philips of Holland and Siemens West Germany are other electrical companies showing an increasing interest in AMT markets.

On the other hand, the recent acquisition of Allen-Bradley, the leading U.S. controls maker, by Rockwell, an engineering and aerospace group, for \$1.65bn, suggests other types of companies as well will attempt to take leading positions in the industry.

Many observers have worried about potential competition from Japanese AMT suppliers, having witnessed the Japanese successes in recent years in selling robots, numerical controls and numerically controlled machine tools in world markets. But with a couple of exceptions, the Japanese have not been very active in European and North American AMT markets, perhaps because of language and

distance barriers to their providing the high degree of customised engineering required in AMT systems.

Indeed, the main issues in AMT today are not so much technological as conceptual and managerial. For both suppliers and users, the most worrisome problems are the practical ones of designing sensible systems, choosing the right suppliers of equipment and preparing for the inevitable significant changes in their organisations.

For the suppliers, system programming is a largely uncharted territory and thus a major headache. Ingersoll International is recognised as being among the most advanced users of AMT in its own operations as well as being a supplier of engineering, machine and systems. But Mr. Edson Gaylord, Ingersoll's chairman, remains humble about the U.S. group's software skills and, in particular, its ability to estimate how much software effort will be needed on any given project.

"It's really a struggle. We know how to do it and we are learning every day to do it better," Mr. Gaylord says.

For users, the key issues at first are those of costs and benefits, but these soon become less important than the human ones. An automated factory, or even a part of a factory that is auto-

mated, operates in a very different way from a conventional one, and different shop-floor organisation structures are needed. In some cases, automation can affect the organisation of an entire company.

Consider, for example, a hypothetical case of a manufacturer with a totally automated production system. From a

Challenge for Management is the theme of the third Financial Times Automated Manufacturing Conference, to be held in London on February 28 and 29. Details on Page 6.

simple electronic signal from a distant salesman that he has won an order, the central computer initiates production, supervises all the machining, handling, assembly and test functions and even generates orders for new materials and tools to replace those used.

This degree of automation, which is beginning to appear in factories already, obviously eliminates a number of manual and skilled jobs. But it also plays havoc with the traditional roles of various supervisors and even directors. In effect, it is the lowly salesman who controls the production line.

"Our lives are almost run by

the system," Mr. John Devaney, managing director of Perkins Engines, the British diesel engine maker, says of the company's increasingly integrated production and management operations. "Management has to make different types of decisions, with much less gut feel. It used to be that if something happened, I would do something or pick up the phone. Now I find myself drawn into a discussion with the computer."

With that kind of change in prospect, managers must plan very carefully before committing themselves to automated systems.

For those who do plan and implement well, the rewards can be handsome. The main tangible benefits offered by flexible automation include reduced work-in-progress, reduced defect rates and faster response to customer demand.

Rolls-Royce, the UK aero engine maker, has financed several million pounds worth of investment in automation at its Derby works solely on savings in working capital. For example, the savings from a new FMS system for machining turbine blades covered the cost of the system in only 12 months.

The company is looking for a similar payback on a £10.3m

system for machining turbine wheels and compressor discs now being installed. This will come through cutting production lead times from 26 weeks to six weeks and reducing the number of high-value parts tied up in the manufacturing process by about two-thirds.

Rolls is perhaps not an entirely typical manufacturer in that the components it manufactures are extremely expensive. A small high-pressure turbine blade, for example, costs about £300 and some discs and wheels cost over £10,000 apiece. Thus, the incentive to reduce work-in-progress is enormous. Other manufacturers, whose material costs are less imposing, must look more carefully for other benefits.

Brian Small, joint managing director of Ingersoll Engineers, points out that the financial payback on most flexible manufacturing systems tends to be three to five years, which is marginal for a major investment. But other considerations can swing the balance, such as making the FMS part of an overall automation programme, or achieving better quality and better service to customers.

As one manager said of a big AMT investment, "we have just spent £3.5m on our customers." He was also investing in not having to emigrate.

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## Manufacturing Automation 2

## Production links incomplete

Design  
GEOFFREY CHARLISH

INTEGRATION IS a feature of half the papers to be given in the forthcoming Computer Graphics 1985 conference at the Barbican Centre, in London. Typically such papers describe computer-integrated manufacturing (CIM) as "the way ahead" and as a "do or die" technology.

CIM has its roots in computer-aided draughting and design (CAD), now nearly two decades old. But for those manufacturing companies — albeit a diminishing band — that have yet to deploy CAD, let alone integrate it with anything else, the technology rush must seem a little daunting.

How close are we to having a group of integrated computers run a plan in unison, from product design through engineering, manufacture and test to packaging?

Because different groups of experts inevitably have attacked these areas piecemeal, unison will take time to achieve. Designers of the various automation sectors — CAD/CAM, mechanical inspection, assembly, materials handling, autostore and the rest — do not habitually talk to each other; they usually work for different companies.

It is on the cards, however, that CIM will grow around CAD, and the reason lies in what computer people call "the product database" — an electronic store of information about the product automatically produced by CAD.

In CAD, the designer uses screen and keyboard instead of paper and pencil. By moving a special stylus over either the screen or a separate graphics tablet, the designer can "draw" what he or she wants and can call up standard forms (circles, rectangles, cross hatching for example) from the computer's "library," placing them where he wants on the screen.

All draughting is a "cut and try" process and becomes much easier and quicker with CAD. Those who need "to pore over the blueprints" can do so from a paper copy produced at high speed on an automatic plotter — without tying up the CAD workstation. Subsequent drawing revisions are done in quick time on the screen, not



Operator at Perkins using a computer-aided design system to work on a diesel engine drawing.

laboriously on the drawing board.

The computer's software will turn the designer's front, side and top elevation into a 30 "wire form" representation of the product which he can then rotate, zoom in on, compress, stretch and otherwise manipulate. Hidden lines can be removed, to improve reality, and with more expensive software, the surfaces can be filled in to give a 3D colour "model" almost indistinguishable from a colour photograph.

The salient point, however, is that the product is now completely defined geometrically — and much stems from that.

For example, by adding materials density data and more software, volumes and weights become available for bill of materials purposes. Using the same data, tool cutting paths can be worked out on screen before tool ever touches metal.

The system can then be made to cut a punched tape for the machine tool (or nowadays, send signals direct to the tool's memory). This CAD extension is called CAM (computer-aided manufacturing).

Another derivative — from the same database — is CAE, or

computer-aided engineering. With the geometry and composition defined, engineers can apply programs to reveal behaviour under mechanical or thermal stress.

It is even possible to simulate a whole plant with screen and computer before it is even built as has been done by Istel of Oxford.

CAD/CAM/CAE, at one time requiring large, expensive computers, is coming downmarket with at least 20 companies in the U.S. offering systems based on the personal computer. The

## Cheap

reason is that cheap, dense semiconductor logic and memory is producing microcomputers with the power of mid-1970s minicomputers, bringing the technique within the reach of many more engineers.

Lower-cost PC-CAD has presented great opportunities for smaller vendors, of which Autodesk in the U.S. is prominent with its Autocad PC-based mechanical engineering software package — it may have won 25 per cent of the 1984 PC-CAD sales of U.S.-based companies

according to market research company Datatech of Massachusetts.

But overall CAD market leaders Computervision, IBM, Intergraph, Calma, McAuto and Applicon are quietly coming round to PC-based systems, even though these currently form only a small percentage of the total market.

Even with no PC-based surge, the CAD industry is set for another bumper year, according to Datatech. Sales of the U.S.-based companies alone will exceed \$2.5bn and the growth figures for 1982, 1983 and last year were 28, 40 and 52 per cent respectively.

A particular filip to sales resulted from the introduction of 32-bit computers into systems, making them able to carry out complicated tasks much more quickly with less waiting for things to appear on the screen.

At the top of the market, Computervision and IBM continue to slug it out with Intergraph not far behind, according to Datatech, which puts the 1984 sales figures at about \$450m, \$520m and \$470m respectively.

## PROFILE: PHILIPS

## Strong presence in control systems

PHILIPS of Holland is one of those companies you would expect to be increasingly interested in the manufacturing automation business.

It has a lot of expertise from automating its own substantial manufacturing operations as well as established positions in the machine and process control businesses and project management.

The company has indeed been devoting more thought and effort to its position in the manufacturing automation area recently. "This is a major growth market," says Mr. J. van der Meulen, managing director of Philips' commercial, scientific and industrial division. "If we were not in it now, we would miss a big opportunity."

Philips' presence in the sector up to now has been through its numerical control products. The company has been making numerical controls for machine tools since 1963 when it demon-



strated one of the first European systems on a Schenck machine. Like other U.S. and European suppliers, it was outflanked by Japan's Famic in the late 1970s, but it has held on to a solid 10-15 per cent share of the European market, behind Siemens and Famic.

Its main NC customer is Maho, the leading West German machine tool maker which takes about 1,200 controls a year. Contrary to reports last year from Japan that Philips was retreating from the field, the company says its sales were up 60 per cent in 1984, and it is increasing its product and market development efforts.

For example, it is trying to convince some European machine tool builders to replace Famic controls with Philips.

Mr. Rudiger Koenig, marketing manager for NC products, acknowledges that Philips output of 1,900 a year is only about a tenth of Famic's, but the Dutch company has been able to find competitive advantages elsewhere.

"We have developed three dimensional graphics which are ahead of the others, and we try hard to adapt the controls to the customer's machine so the user can get the most out of it."

Later this year it plans to introduce five and six-axis controls. It is also alert to the growing demand for remotely controlled NC and is modifying its controls so they can be linked to hierarchies of computers.

Mr. Koenig believes a shakeout is at hand in the NC business but is convinced that Philips will survive. "In every industrialised country now, you find there are four or five machine tool builders that have 80 per cent of the CNC machine tool market. So as a control supplier, we are vulnerable. We have to keep looking for the next big customer."

Apart from its NC base, the company has brought together a few developments for automating its own production. For example, an automated transport system for small sub-assemblies is being marketed for Philips by IBM. An electronic identification system for components, called Ident-Vision, has been developed and sold successfully to some automobile manufacturers. Its advantage over established bar code systems is that the part does not have to be close to the camera. Also, the label does not have to be oriented in a particular way.

The companies most recent offering is a general software package called a distributed real time multiprocessor system (DRM). As the name implies, it is designed to speed up the programming of complex production management systems in which a hierarchy of computers co-ordinates the activity of a number of machines and materials handling devices.

It consists of an operating system for distributed computers and a set of software tools for developing application programs. DRM came from the group's research laboratories two years ago. The problem was to convince Philips management that it should be marketed as well as used within the group, and this was achieved last autumn.

Ian Rodger

## Data networks: potential still being explored

DATA communication is a key factor in machine-shop automation. Increasingly, individual machine tools in the more advanced engineering factories are becoming connected by data highways that are analogous to the telephone systems that link the world's homes and offices.

Whereas the ordinary telephone network carries the sound of people's voices, the factory highways act as a conduit for binary-coded messages sent between microcomputers in the individual sets of hardware. The messages could be instructions from supervisory computers to other grades of machine further down the plant hierarchy that may do physical work — such as gouging lumps out of a metal block with a cutting tool.

Alternatively, the data network could transfer signals between the different machines that keep each informed about what the others are doing. In this way, for instance, a robot that has to lift items from a conveyor on to a warehouse pallet would be told of any failures in the machine tools that are fashioning the items. It would thus receive an early warning of any changes in the production routine that would affect its own operation.

The commonest sets of factory equipment linked in this manner are called flexible manufacturing systems. These are networks of computer-controlled machine tools supervised by large computers. Such systems often incorporate automatic transfer mechanisms, sets of robots or unmanned carts for example, that relay metal parts in varying stages of completion between the different tools.

The supervisory computers send instructions to the tools on matters such as how to fashion different parts, the order in which the metal components will be presented to the machines, and the total numbers of finished products that are needed in a particular day.

Flexible manufacturing systems are used primarily because they can turn out in an automated fashion different types of products within a family of manufactured items. By changing the programs in the main computers, for instance, the system can be ordered to make sets of, say, inter-box casings that are all slightly different in shape and so cater for a range of customers.

With conventional automated systems of the type devised a decade or so ago, the engineering plant was limited to making objects only in long, unbroken runs in which the type of product stayed the same.

Relatively few companies implement flexible manufacturing systems by ordering new equipment and starting from scratch. This strategy would cost several million pounds for a medium-sized system. In a more common approach, manufacturers link up computer-numerically-controlled machine tools that they already own.

Such machines are programmed either by operators who insert commands by a keyboard in the side of the tools or (more usually) by white-collar workers of plant hardware under their control. These white-collar workers, acting as interpreters between the different types of hardware.

Two British companies, Tannan of Davenport and Precision of Stoke on Trent, are among the leaders in supplying this kind of device. Konberg of Norway is another company active in this area.

Flexible manufacturing systems do not necessarily operate in isolation. They can be linked to other parts of the factory, for example the design and planning departments and the accounts office. Crucial in such networks of hardware are the communications links that carry messages between the computers on the factory floor and those in other parts of the plant.

If the system is working properly, accounts staff should be able to ask their computers to find out the impact that changes in factory-floor production are having on orders and work-in-progress. In this way, they would be able to see more clearly how hiccups in production affect the financial performance of their company.

If the problems over data distribution can be overcome, flexible manufacturing systems should cut running costs in many areas of small-batch production. A large saving is in the reduced requirement for operators.

In a system to produce bomb-release mechanisms for military aircraft operated by Normalair-Garrett in Cork, the company needs only 13 employees who work around the clock in shifts. A workshop that makes the same number of items (70 a month) using conventional machine tools would require a staff of 50.

A Citroen factory in Mondon, France, that makes car parts such as clutch housings and shafts with a flexible manufacturing system needs only 26 workers in this part of the plant — a reduction of nearly 50 per cent compared with the normal way of working.

On top of the quantitative savings, proponents of such flexible systems, say that they are also improvements in the quality of finished parts. And more efficient feedback techniques by which managers can keep in touch with events on the factory floor.

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## Crucial issues of change

## Work practices

BRIAN GROOM

FACTORY AUTOMATION brings with it a host of issues beyond the introduction of the equipment itself. It often requires changes in skills and working practices among the workforce, retraining, changes to the organisational structure and industrial relations within the plant, and — crucially — side re-examination of management systems. Many companies are suffering problems in one or more of these areas.

It is not putting them off from stepping up capital investment in automation. A recent survey of 190 senior managers and directors by the Work Management, carried out with the help of Burroughs Machines, showed that average capital budgets increased by 17 per cent in 1984-1985, compared with 12 per cent the year before, an overall rise of 31 per cent in two years.

In real terms, capital spending was about 20 per cent higher than two years before. The number of companies with problems had increased from 47 to 56 per cent, compared with an earlier survey. This probably represented not so much an underlying deterioration in their competence as the fact that more were embarking on automation seriously and pushing back the boundaries of their experience. Hence the number of companies which felt they had insufficient technical expertise increased from 15 to 23 per cent.

Most seriously, however, it is on the technical competence, planning and control skills of line management that the heaviest demands are being made. Nearly 30 per cent of respondents to the survey listed line managers and supervisors as a problem area — four times higher than those who regarded shopfloor workers as a problem.

Change on the shopfloor is, however, at the heart of how successfully companies cope with the introduction of new technology. A great deal of attention is being focused on the role of maintenance craftsmen — only a small proportion of the total workforce, but vital to ensure uninterrupted production as micro-electronics is introduced to process control.

According to research by the London-based Technical Change Centre, changes are under consideration in industry which could radically alter the traditional organisation of maintenance craftsmen into "electrical," "mechanical" or "instrument" trades.

The centre has studied the food industry, where 41 per cent of establishments have introduced microprocessor-based control equipment. Fifty-three per cent said they wanted to reorganise the maintenance workforce, and in half of these companies proposals were already under discussion.

Colman's, the Norwich food manufacturer, for example, has reached an agreement with its unions aimed at achieving a multi-skilled workforce, because new plant such as high-speed packing and bottling lines require extra skills.

The aim in many companies is to repair faults more rapidly on new machinery which combines mechanical, electrical and pneumatic elements. At present delays are occurring while different craftsmen decide in whose trade the fault lies.

Five new craft occupations now exist: craft technicians, "machine-specialist craftsmen" who can do the range of tasks on a single complex piece of equipment; "dual-trained craftsmen" who acquire a skill in a second trade, like a mechanical fitter undertaking electrical work; and "cross-trained craftsmen," who learn extra skills within their original trade, like an electrician learning electronics.

In the long-term there may be "mechanicians" who move across the mechanical, electrical and microelectronic fields, and "user-maintainers" who operate and maintain a particular machine. The trouble is that progress throughout industry is slow: there has been more talk than action on introducing new craft grades.

As an interim measure, some companies are deploying craftsmen in a degree of change at all levels of the factory. It is no use having a multi-skilled shopfloor workforce if they get no opportunity to use their new skills, or if rotating workers between jobs makes the factory less efficient than it was before.

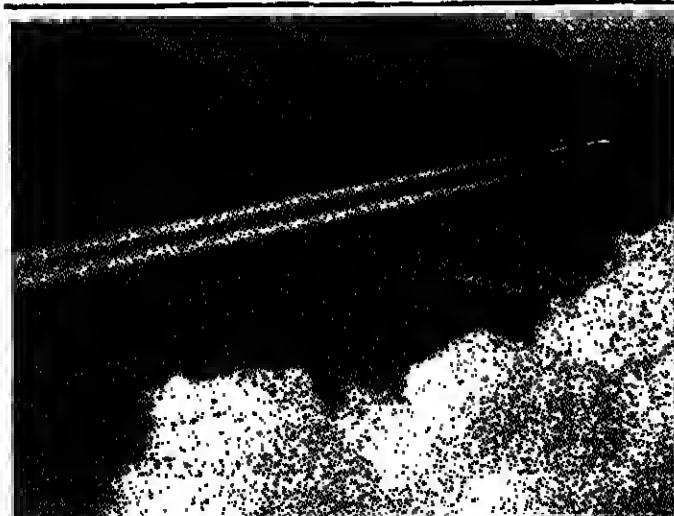
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Training is another problem. Some companies are slow in identifying their needs, often not being sure of what they want until the new equipment is in operation. There is a growing need for more training in diagnostics, electronics, and cross-trade skills.

The important thing for companies is to achieve the right degree of change at all levels of the factory. It is no use having a multi-skilled shopfloor workforce if they get no opportunity to use their new skills, or if rotating workers between jobs makes the factory less efficient than it was before.



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## Manufacturing Automation 3

# Advanced techniques being explored

### Machining

PETER MARSH

WITH THE TREND in machine shops around the world increasingly on linked systems in which computer commands replace supervision by a human operator, machine-tool companies face some special problems in redesigning their products.

Until relatively recently, a machine-tool company designed its hardware in the knowledge that a person would be directly in charge of the equipment for virtually all its running time. Changes in tools and workpieces, and monitoring of the machinery to ensure efficient operation, were functions that could be left to the human supervisor.

In many machine shops today, individual sets of hardware operate for much of the time unattended. The nearest operator may be the length of the factory floor away. This puts the onus on the equipment makers to produce techniques to fit in with this way of working — which the UK Machine Tool Industry Trade Association calls "minimally manned manufacture".

The association, based in Macclesfield, has a research budget of about £1m and much of this is geared to exploring these new techniques.

Machine tools are traditionally divided into those in which the tool is stationary and the component being cut rotates — lathes and other "turning" machines — and equipment such as machine centres in which a rotating tool cuts, drills or otherwise fashions an immobile block of metal.

As a general rule, it is easier to automate the second type of machine. In this hardware, raw components can be presented to the rotating tools fixed into position on pallets. Different pallets can be slotted into place relatively easily by automatic means.

A set of computer commands instructs the tool on issues such as at what speed to turn and for how long. Commonly, the computer also controls selection of one out of up to 50-100 individual tools which are stored in a carousel. In this way, the hardware can perform a wide variety of jobs, choosing a new tool for each task.

Hardware such as a lathe, however, presents different problems. Here the chuck of the machine holds in place a workpiece of cylindrical shape while it rotates and meets the stationary cutting edge of the tool. To change automatically workpieces of widely different sizes and shapes has been all but impossible until recently. This is because the designer must build into the machine a way of altering not only the raw component but the chuck that clamps the part in place.

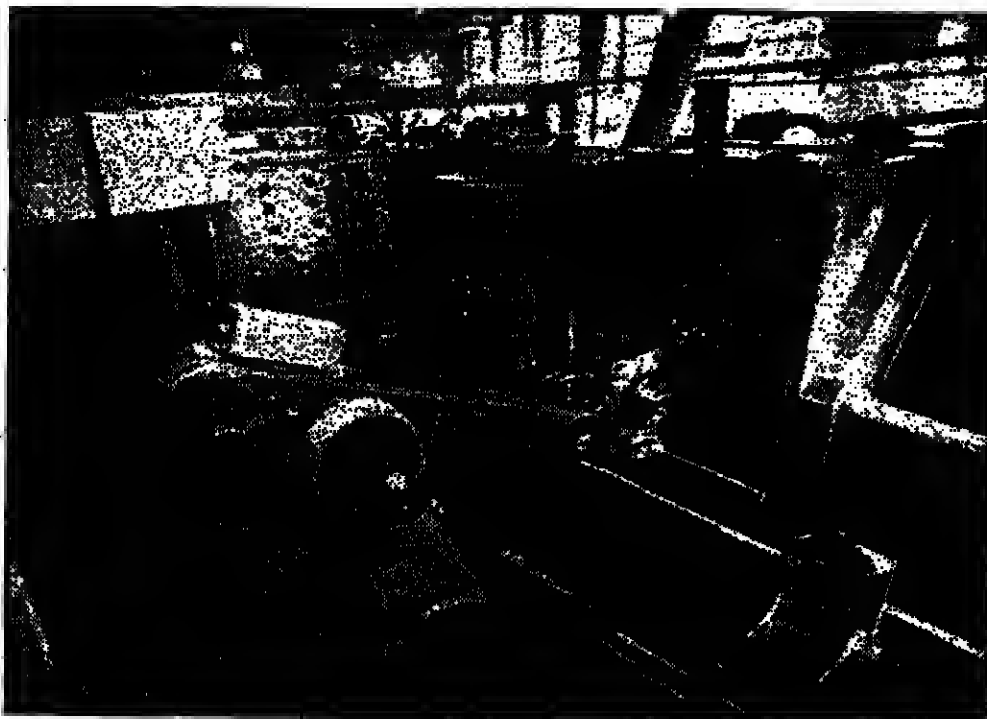
Several manufacturers have addressed this challenge over the past few years. They now offer systems in which robot-type devices load and unload two parts and also change over the chucks and tools. The companies tackling these problems include Sandvik of Sweden, Traub of Germany and Yamazaki of Japan. Among the companies that include robots with their turning hardware for workplace handling are T. I. Churchill of Britain and Okuma, a Japanese company.

An often ignored area of machine-tool research is fixture design. The fixtures clamp a piece of material in the shape required for the final product, on to a pallet used in conjunction with the machining centre. In many machine shops, engineers use standard systems of fixtures. With these blocks of metal of widely different shapes can be held in position using the same set of modular clamping elements. The latter are joined together in the manner of Lego building blocks.

Two well-known sets of fixture systems are Brico, sold by Parker Precision and Holder, sold by Wix and Royd. In some automated machining systems, it is important that the pallets leave the machine in a highly clean condition. This is so that swarf or dirt does not interfere with the fixture setting arrangements when workers load the pallet with a new lump of metal.

In some systems, a robot is deployed immediately after the pallet disengages from the machine. The robot directs a stream of water at the pallet to rid it of any loose bits of metal. Cincinnati Milacron has used its TR robots to turn machining spend much more effort fashioning.

Machine tool researchers centres in this way. Improvements in traditional areas such as tool and spindle design. Thus there are continual attempts to increase the work-life of tools such as drill bits or cutters, or to ensure greater flexibility in spindle speeds.



A Daiichi-Sykes PT 600 robot machining car axle hubs at Jaguar, Coventry.

A new and increasingly important area for machine tool research concerns monitoring systems. With the move towards "minimally manned manufacture", designers must build into their machines sensors to perform the checks that a decade or so ago would have been left to people. Instrument makers such as Rank Taylor Hobson of Leicester play a part here in producing the monitoring hardware.

A variety of microchip-based sensors can measure factors such as cutting depths or tool wear and feed information along data highways to supervisory computers. The centre for micro-engineering and metrology at Warwick University, run by Prof David Whitehouse, is one of Britain's leading centres in this area of sensor technology.

It is supported by about £200,000 worth of research grants from industry, of which a substantial proportion is based outside the UK.

Vision systems in which a TV camera monitors parts of a machine's operation, with the images being analysed automatically by a computer, constitute another important type of monitoring device. The hardware can keep a check on aspects such as tool breakdown and whether the machine is generating too much swarf.

Other machinery systems use touch sensors to monitor the position of tools or workpieces. A British leader in this area is Renishaw, which makes devices called touch-trigger probes to measure position.

Among the other companies that sell equipment to monitor tool life are Yamazaki, Gilde-meister, Emag and SMT.

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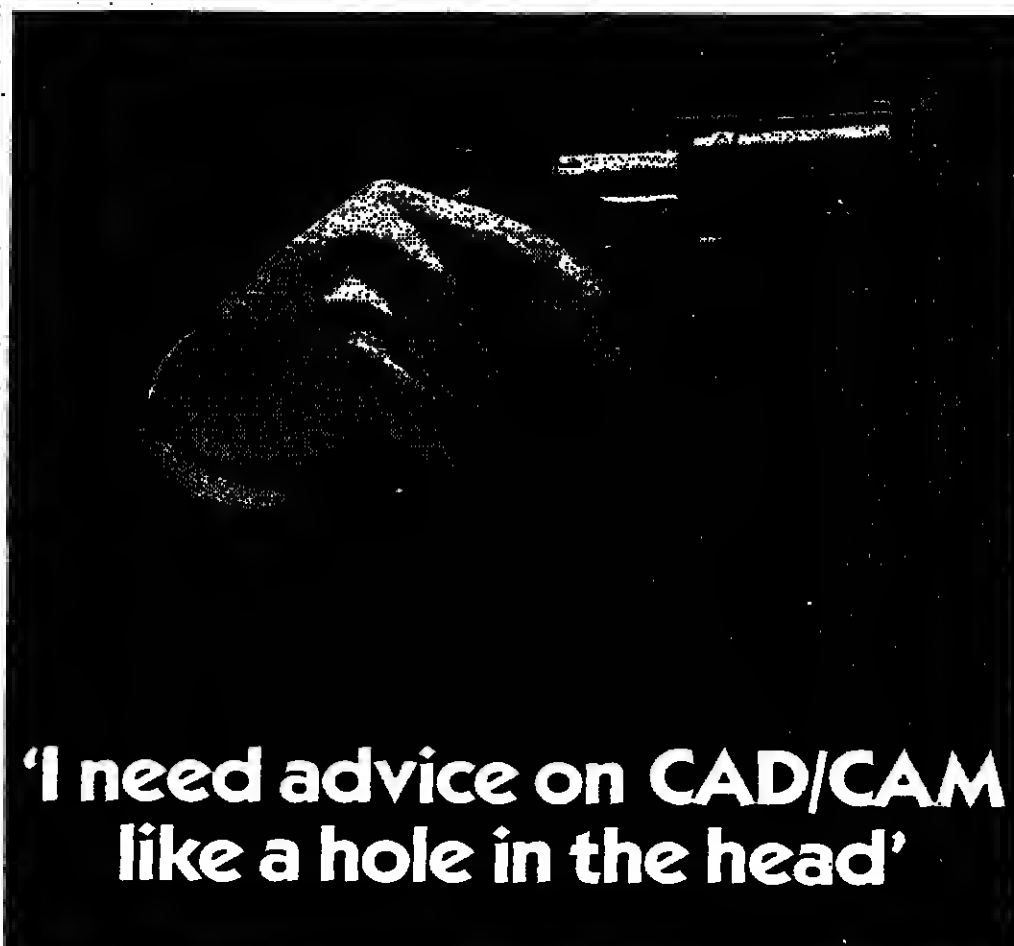
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### PROFILE: WHITE CONSOLIDATED INDUSTRIES

BY IAN RODGER

## Working hard to maintain expertise

FACTORY AUTOMATION buffs will undoubtedly argue for a long time over who built the world's first flexible manufacturing system (FMS).

Cincinnati Milacron and Ingelsohn International have claims, but so does WCI Manufacturing Systems.

Its system at Sundstrand Aviation in Rockford, Illinois was installed in 1965 for \$6m and it is still going strong, making aluminium components for aircraft engines and fuel pumps. The eight milling machines in the line use 40 tools to make 400 different parts.

That system was built by what was then the machine tool division of Sundstrand, itself. But in 1977, White Consolidated Industries, the diversified home appliance and heavy equipment group, acquired Sundstrand's machine tool division as part of a strategy to rejuvenate its own machine tool business.

WCI already owned the Bullard Company, which made vertical turning machines but had not kept pace with the emerging electronic technology. Sundstrand, on the other hand, had been a pioneer in introducing

numerical controls to its milling machines and had developed a line of machining centres. It also produced its own numerical controls.

The acquisition put WCI in the top ten of U.S. machine tool builders in terms of sales, an unusual position for a conglomerate. In the past,

conglomerates have not had much success in, or patience with, the highly cyclical machine tool business, and it remains to be seen if WCI will prove an exception.

So far, the financial results have been nothing to celebrate. Like all U.S. machine tool builders, the company has been hit hard by the slump in orders in the early 1980s. WCI does not publish separate figures for its machine tool business, but these make up the bulk of the \$249m sales in the machinery and metal castings division in 1983, down 46 per cent from 1981.

Moreover, the division had losses in both 1982 and 1983. However, there is no evidence that the group's enthusiasm for the machine tool area is flagging. Mr Roy Heist, chairman, said in the 1982 annual report that WCI saw the market for flexible manufacturing systems as "a major growth and profit opportunity", and this belief was reaffirmed in the third quarter report last year.

Mr Michael Davis, president of WCI Machine Tool, is even more enthusiastic, wanting to lead the recovery of the U.S. machine tool industry. "We have unique opportunities to distinguish ourselves," he says.

WCI is in the first rank of builders of automated systems, and is working hard to maintain its expertise in this area. For example, it claims to be ahead of most of its competitors in the technology of so-called distributed numerical control (DNC) systems. These are systems in which application programs for machine tools are fed from remote computers.

In 1982, a new division called WCI Manufacturing Systems was set up to concentrate on the flexible manufacturing system (FMS) market, where Sundstrand was already well established. It and WCI have installed 10 systems to date, and the customer list includes Caterpillar, Tractor, Boeing and Detroit Diesel Allison.

According to a recent study by First Boston, WCI is now one of the top three U.S. suppliers of FMS, alongside Cross and Trecker and Cincinnati.

WCI established a presence in Britain in 1980 when it bought the old BSA machine tool business from the liquidators of Alfred Herbert. In 1982, it started to manufacture Bullard lathes as well as the BSA automatic lathes and more recently has begun to make Sundstrand machining centres.

Employment has grown at the Kils Green factory from 250 in 1982 to 305 today and the company hopes it will rise to 450 by next year. About 40 per cent of its volume to date has been in making machines and components for shipment to the U.S. parent company, but it is optimistic about landing its first FMS contract in the UK in the near future.

Another manufacturing system which KTM is also building for Austin Rover involves two KTM machining centres, a lathe, cam grinder and spark erosion machine for the production of prototype parts.

With these experiences of project management of manufacturing systems, KTM has certainly established itself as a major force in at least in part of the market the future looks optimistic.

Another hope for the future concerns KTM's export market, only 25 per cent of the company's £18m turnover currently comes from the export market. Mr Dawson regrets that it should be so small and has set his market strategy to put this right.

First, the agreement with Mitsubishi concerns marketing rights in Europe and has enabled KTM to reorganise its distribution network in Europe on a more comprehensive level.

Second, he has recently concluded an agreement with the Hindustan Machine Tools Co of Bangalore, India, whereby HMT will ultimately manufacture KTM machines at its Hyderabad plant. At this stage, KTM is supplying lots of parts to the Indian company.

And finally, KTM is in the midst of discussions about a marketing agreement with a U.S. dealer, but no announcement has been made yet.

Anna Kochan is editor of FMS Magazine, published by IFS (Publications).

### PROFILE: KEARNEY AND TRECKER MARWIN

BY ANNA KOCHAN

## Carving a niche in the market

POISED, READY to face the future is how one of Britain's struggling machine tool companies, Kearney and Trecker Marwin, describes itself. Having gone through the most horrendous recession, as have most in KTM's business, the company is now busily carving itself out a niche in the market, and one which is beginning to extend across the world.

Brighton-based KTM is part of the \$600m engineering group, Vickers. Its key product is a range of machining centres and, in the past, it has created a specialised field of business in the automotive and related high volume industries; and previously centres to the aerospace industry.

Activities used to split three ways between the automotive, aerospace and general engineering industries. But that has all changed.

With the recession in the early 1980s, hitting home and export markets alike, KTM was forced to analyse its traditional markets and take severe steps to restructure the company. To begin with, the automotive industry no longer wanted the dedicated production lines it had previously invested in. Market forces demanded greater flexibility, shorter lead times for new products, and also more frequent changes of model.

And looking at the aerospace market, the prospects for profitable production showed little growth potential. Where there

did seem to be room for expansion was in the market for linked machining systems for the medium batch, general engineering companies.

The machines KTM designed to satisfy the new requirements are highly sophisticated. They are all capable of doing a variety of jobs that they can be linked into automatic systems. They have large tool magazines to enable a large variety of operations to be performed on a number of different parts using the same equipment. In addition, advanced numerical controls and an extensive range of software provides the capability to run the machines unmanned.

Not only has the product range been redesigned to supply systems capabilities but the company has also been reorganised in a number of ways. First, a manufacturing group has been set up to be responsible for multi-machine installations.

It provides single-source responsibility for systems which can include training, testing and inspection equipment from a variety of vendors, as well as KTM machines. This single-source responsibility is what the customer wants, says Mr Jim Dawson, manufacturing systems director.

Collaborative agreements have also helped to create the strong systems capability KTM now possesses. One partner in such an agreement is Siemens of West Germany, which jointly produces and collaborates on software developments.

On the hardware side, a manufacturing agreement with Mitsubishi Heavy Industries of Japan provides KTM with product range which compares favourably with any manufacturer in the world, KTM claims. The first Mitsubishi-designed machine was a lathe unit in Brighton later this year.

Already, KTM's restructuring has proved itself to be on the right lines. When the company won its first major FMS order worth £2.5m in 1983, the customer, British United Shoe Machinery Co, of Leicester,

claimed that no other company would tackle the project with the flexibility required and that KTM's solution was the best for the investment available.

Following hot on the heels of the BSMC order came one from Austin Rover to produce a number of different models of cylinder head, a contract worth more than £2m. The installation will incorporate assembly, washing and inspection equipment as well as 12 KTM machining centres.

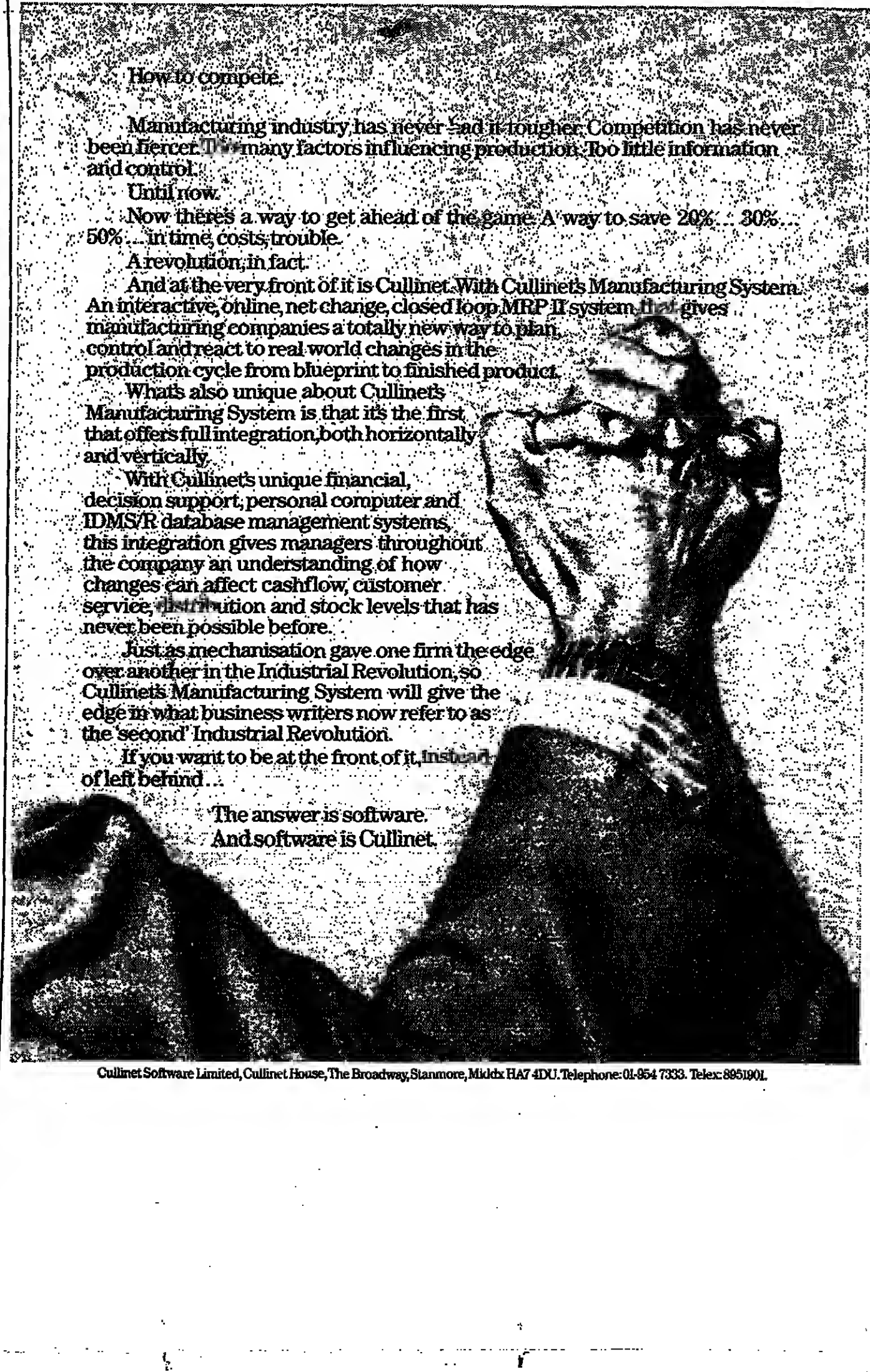
Automation, made possible by 12 robots and 10 automated guided vehicles, will enable the system to run 24 hours a day to produce 3,000 parts a week in fully-assembled and tested matched sets.

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The answer is software. And software is Cullinet.



## Manufacturing Automation 4

## A growing need in production areas

Storage  
ANNA KOCHAN

FULLY-AUTOMATED warehouses are beginning to spring up everywhere. It is a reasonably sudden change towards automation and one that has not been particularly triggered by any great advance in storage technology but rather by the general trend towards the adoption of computers to aid production.

The number of fully automated stores in the UK is currently about 100. Some of these date back about 20 years. In the early days, the applications which took up the new

computer technology were in distribution warehousing. Today that has all changed with the growing need to incorporate stores in the production environment.

A traditional warehouse for distribution purposes stores finished products awaiting delivery to the customer. It is generally 20m-25m high and has a huge capacity. For example, a warehouse built by UK-based specialists, Dexon, for the Swedish company Frigoscandia at its Bristol centre, has 5,000 spaces.

This is in fact a fully automated cold store and the first of its kind in the UK. It requires only two operators to keep it running and is safe to the extent that they need only stand at a computer terminal and key in details of

what goods are being stored or need to be retrieved. Stackers cranes fitted with microprocessor controls will then automatically take the goods from the operator's load station to a location in the high bay racking dictated by the warehouse's supervisory computer.

This computer system operates a stock control system and uses critical path analysis to minimise crane movements.

While distribution warehouses continue to be built, and about 50 per cent of the automated warehouses on order currently are for distribution, the growing area is in the production environment.

The automated manufacturing systems now being installed, particularly in mechanical engineering industries, need to be serviced by a

highly-flexible, easily-accessible store if they are to function most effectively. And this is the same whether manufacture involves sheet metal work, machining, assembly, or all three.

Items stored in this environment would include both finished products as well as raw materials, part-finished goods and tooling accessories.

Automated stores for the production environment run on much the same principles as the distribution warehouses but they are much lower, usually around 10m in height, and they do not need to be so large. In addition, they are usually linked into an internal distribution system, often making use of Automated Guided Vehicles (AGVs).

Thus, an AGV will deliver goods for storage to a load station from where a stacker crane will automatically pick them up and transfer them to the store, all instructions coming from a warehouse control system which will be linked into a production control system.

The Swedish-owned company BT Rolatrue is well experienced in the type of application and currently reports that it is snowed under with inquiries in the UK.

## Typical

One system now being built for a UK aerospace company is typical. It uses two unmanned stacker cranes, each of which serves two racks either side of it. The cranes deliver goods on demand to a handling system which serves 70-80 distribution points around the shop floor. The store is 12m high and contains space for 800 pallets.

Another of BT's warehouse installations has recently been opened at Perkins Engines, Peterborough. Here an automated store, costing about £2.5m, will eventually be integrated with an assembly line for cylinder heads. The main benefit is expected to be savings in inventory. It will also enable Perkins to keep to its delivery schedule more consistently.

A high bay store with 13,600 locations and low bay store with 3,480 locations are included in the warehouse which at any one time holds about £10m-worth of stock and equipment.

Another major supplier of automated warehousing equip-

ment in the UK is Babcock FATA which has recently been involved in a £2m contract for Pedigree Pet Foods in Milton Keynes.

Frozen fish and fresh meat products are being stored in a cold store which runs 24 hours a day, seven days a week, 48 weeks a year. The bins containing the meat products are delivered to and from the stacker cranes by conveyors.

Not everyone wants to build a completely new warehouse as in these examples. It is not really possible to convert an existing manual warehouse to full automation but it is possible to achieve some of the benefits by introducing a computerised information system.

## Memories

This is what has happened at a United Biscuits distribution warehouse in Gloucester which used to rely entirely on paper work procedures and forklift truck drivers' memories to keep track of its stock.

At the end of last year, UB began running its Gloucester warehouse on a paperless basis using Computatrak, a product developed by UB's subsidiary Process Computing Ltd (PCL). With Computatrak, each forklift truck is fitted with a computer terminal which gives the driver instructions. These instructions come via a radio link from a supervisory computer which supervises pallet location, records stock input and output and controls all truck and operator movements.

The benefits are accurate stock rotation, improved utilisation of space and of forklift trucks, and the elimination of uncertainty about goods availability.

With similar goals in mind, West German truck manufacturer Jungheinrich, in collaboration with the UK storage consultants CAP Northern, will launch a system known as CAP-ACITY later this year.

It is likely that the concept of the paperless warehouse will catch on where there is reluctance to automate fully. Industrialists in the UK, unlike those in other European countries, have fears about full automation. They are insecure about the future and so hesitant to invest massively in equipment which is dedicated to a particular application and which becomes obsolete when the application disappears. But it is hoped that this attitude will change.

## Computers carry out day's decisions

THE SAFE and cost-effective provision of the right place and time of materials needed to manufacture line throughput pre-occupied most production engineers. Possibly as much as 10 per cent of the manufacturing costs of discrete products can be attributed to materials handling.

Manual, powered trucks (fork lift, pallet or tractor types) are widely used and are available from a large number of suppliers.

Another common sight in a high-volume plant are "conveyor" transport systems (overhead, unit or low-level chain, belt or roller systems).

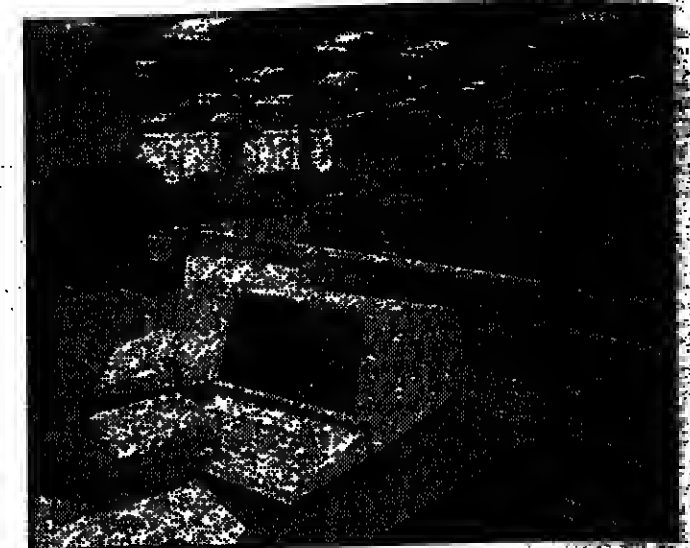
A less common sight, however, particularly in the UK, is the automatic guided vehicle (AGV), and the robot. Increasing automation in the production processes themselves, the situation will change. The AGV will score where sufficient material or parts are transported and where production-integrated operations are necessary, such as automatic pallet loading/unloading at workstations. But for sporadic movements over widespread, varying routes, the manned vehicle is likely to be more appropriate.

The various conveyor types have been used for many years but nowadays can be computer controlled, integrating them with other automation activity.

Clark's shoe-makers recently spent £3m at its Street, Somerset plant on a conveyor-based system the size of a football pitch. Engineered by Rapistan Limited, the system solved the problem of sorting many thousands of different pairs of shoes a day into packs for despatch to large numbers of customer locations.

A computer, knowing the orders for the day, allows bulk supplies of all the necessary shoes to be hand-picked and sent in a floor chain truck system (SI Handling, Swindon) from stores to sorting area, 100 boxes at a time.

Data General Belpex computers produce packing notes for each customer pack. The 100 boxes are manually loaded on to driven roller conveyors which feed a double conveyor run with 90-degree chutes and diverters down one side. The boxes have bar code labels identifying the contents, read by Acoustar laser scanners so that the boxes can be diverted



Using a Honeywell system to check parts availability in a factory store.

into the proper customer chutes.

A particular value of roller conveyors is that buffer or accumulation sections become possible—a stop can be actuated and the rollers allowed to slip under the conveyed items. Such arrangements are essential when delivery and disposal of units cannot be synchronised. Overhead conveyor with chain drive and suspended unit loads have the advantage of occupying no floor space, but roof and associated structures must be able to bear the load. They are popular in car body and television tube plants for example. Some systems allow different conveyor speeds to be provided within the branches of a system.

Other overhead systems have a separate electric drive per load unit, with conductor rail.

Handling  
GEOFFREY CHARLISH

They can be more cost effective where load frequencies are low and irregular.

A more flexible and less permanent approach is offered by the guided truck. There are various types, including tractor-pulled trains, used mainly where the number of destinations are few but material flow is high. Load/unload equipment is usually stationary (at loading point and destination).

Pallet trucks, on the other hand, can have their own lifting forks and can load/unload automatically and independently. They can be cost-effective where there is relatively low material flow to many destinations. Some trucks have four steered wheels and are highly manoeuvrable.

Other, special designs—wheel rollers on the load surface—help with heavy loads, while others have been specifically designed to work with production equipment.

Principal suppliers of AGVs are Jungheinrich and Wagner in Germany and Digamma in Switzerland. In the UK, Babcock FATA recently entered the market.

Usually, low-frequency inductive systems are used to steer the vehicles and allow them to communicate with human or computer controllers. At a warehouse centrally on the route, a field which is sensed by coils in the vehicle to keep it on course. Information about routing and loading/unloading is dealt with by other wire loops in the floor and ferrite serials in the trucks.

A recent development by Jungheinrich uses a radio communications system that will transmit data from a warehouse computer to 128 trucks and order pickers. Working at 450 MHz, the system is said to be relatively immune from industrial electromagnetic noise and screening by metal racking or machines.

Radio systems are an alternative to floor loop signalling and need little cabling. Men steer the trucks, but inductive steering could be used.

Robots, from companies like ASEA, Unimation, IBM, Cincinnati Milacron, Hitachi, Yaskawa, Kawasaki and many others, are increasingly being used for unpleasant loading jobs—furnaces or machine tools for example.

In flexible assembly systems—a technology still in its infancy—robots pick and place parts and materials from incoming chutes, conveyors or pallets and after robot assembly place assembled items on output conveyors.

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## PROFILE: BROWN AND SHARPE

## Different gauge of output and profits

MOST MACHINE tool companies have suffered in the past few years, but few have changed in shape as dramatically as Brown and Sharpe, formerly one of the leading US-based companies in this field.

As recently as 1980, machine tools accounted for nearly half the group's \$327.5m sales. By last year, they probably accounted for only a quarter of the total, and the group had stopped making machining centres and cutting tools because of excessive competition.

Moreover, the machine tool division has been largely responsible for the group's net losses of \$13.5m in 1982 and \$1m in 1983. Indeed, machine tool sales fell from \$73.7m in 1981 to \$39.7m in 1983 and pre-tax losses in these three years totalled \$33.4m.

In the meantime, however, B and S was building up its substantial and high technology measuring equipment business. It is now accounting for half the group's sales and was the reason it returned to profit in the second quarter of last year for the first time in over two years.

Even during the 1982-83 recession, sales in the measuring equipment division declined only 12 per cent and pre-tax profits actually rose 16 per cent to \$35.2m between 1981 and 1983.

## Digital readout

B and S has been in the measuring equipment business for a long time, making gauges, micrometers, rules, scales, caliper tools and surface plate tools. In the late 1960s, it developed its first three-axis precision measuring machine with digital readouts and soon realised that this would be a high growth market.

With the increasing emphasis on quality, manufacturers of need machines that inspect their products fully and accurately. Under computer control, a measuring machine can note any number of machine points on the surface of an object and then check them against requirements.

Machines of this type are integral parts of unmanned flexible manufacturing systems, which is why other machine tool companies, such as Cross and Treco, and Cincinnati Milacron, have made acquisitions in this area recently.

Electronics have also come to gauges and other types of measuring equipment, and B and S has kept up with the new technology. It claims to be the only company in the sector that has a complete range of metrology equipment and systems.

In spite of the importance attached to the metrology business, B and S continues to make two types of machine tools—small, precision surface-grinding machines and single-spindle automatic turning machines. Demand for both remains depressed and the division is still in loss.

Similarly, a hydraulic equipment division, which accounts for the remaining 25 per cent of



turnover, continues to suffer from the slump in the mining industries. Much of its output of hydraulic valves, pumps and motors goes into mining equipment.

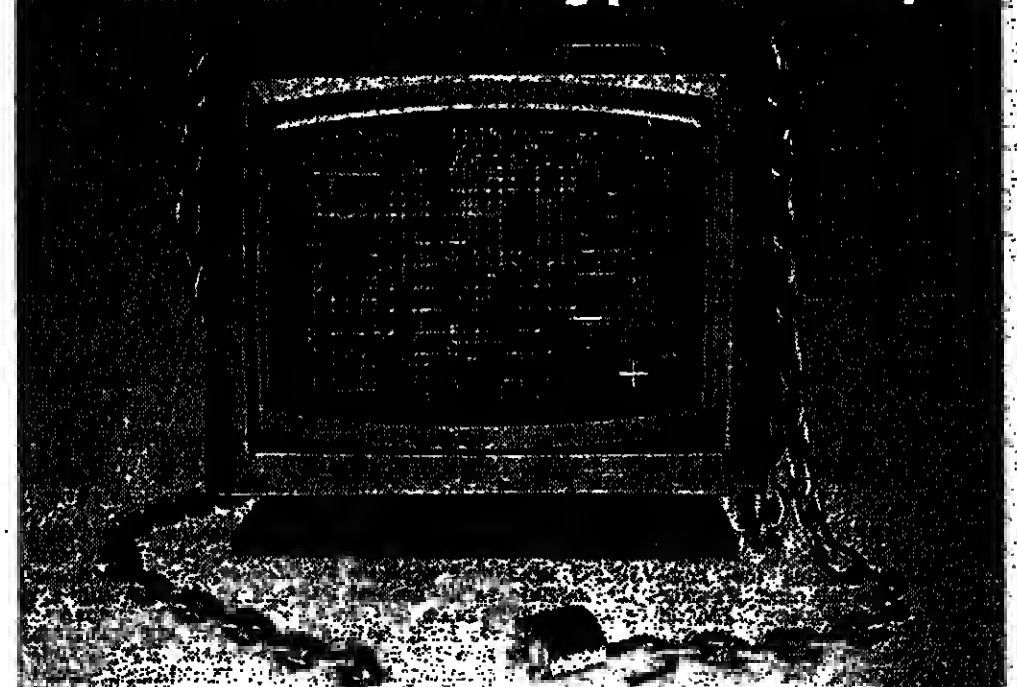
In addition to its operations in the US, B and S sells its products throughout the world. Overseas sales accounted for 42 per cent of the total last year. The group has three turning machines at Derby, the Test Remanufactured gauging and measuring machines at Telford, and hydraulic equipment at Plymouth.

The restructuring of B and S has been a costly business. Shareholders' funds tumbled from \$89.7m at the end of 1980 to \$64m at the end of the third quarter of last year. However, the pain was eased by realising the proceeds of an extraordinary successful British investment.

In 1980, the company became the U.S. distributor of Test Remanufactured gauging and measuring machines. It also decided at the time to take a 20 per cent stake in the small British company, which was one of the most successful new issues on the London Stock Exchange in 1983. Over the past two years, B and S sold the shares and realised a \$14m gain.

Ian Rodger

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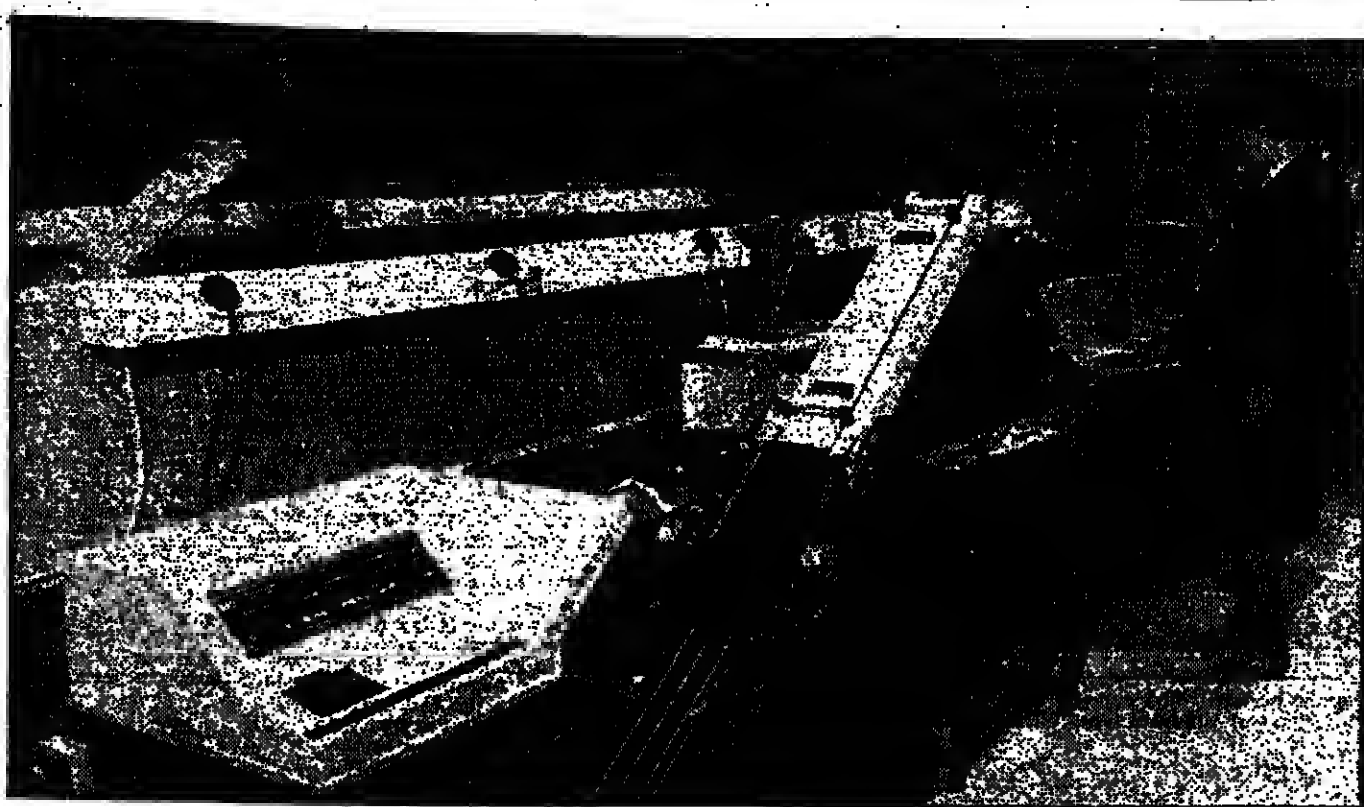
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# Manufacturing Automation 5



An automatic system for testing integrated circuits before assembly

## Machine vision ends tedium

**Inspection**  
GEOFFREY CHARLISH

HAVING manufactured the product, a simple question arises: "Is it the right size and shape, and in an assembly, is everything where it should be?" The next query is "Does it perform as it should and how long is it likely to go on doing so?"

The second is a matter of testing, with almost as many answers as there are products. The first is concerned with dimensions, outlines, finishes and the presence or absence of faults.

Throughout measurement, test and inspection, electronics has been steadily replacing repetitive tedium which usually also requires close and unremitting attention. "Right first time" answers are then more forthcoming, although some job de-skilling may result.

Take for example, the humble micrometer, in which the turn of a threaded and calibrated barrel have to be interpreted into part diameter by the user. Mercer, Moore and Wright and others offer micrometers in which the barrel motion is sensed by a transducer and the reading continuously shown on a small electronic display in the handle. It is almost impossible to make a mistake.

### Recorded

For large components and assemblies, co-ordinate measuring machines (CMM), in which the positions of a probe tip in X, Y and Z co-ordinates are recorded, have been much enhanced by the microcomputer and electro-optics.

The computer can, for example, remember measurement sequences and move the probe accordingly, or it can look

at all the results for statistical trends.

Bendix, Brown and Sharpe, Carl Zeiss, C. E. Johansson, Vickers, Farnell and LK Tool are prominent in CMMs.

View Engineering of California uses machine vision to programme the measurements. A TV camera takes a picture of the component and the operator moves a cross-hair over the screen to fix the desired measuring points. The computer remembers them and can make the CMM repeat them ad infinitum.

Machine vision will come into its own in the next year or two, since it is another tireless, accurate, remover of human tedium in inspection. Ever-cheaper electronic image storage and manipulation are making it more and more feasible with low-end system prices below £20,000, although complexity of application can

move this towards £100,000.

In machine vision, a still of the object is captured from the TV signals and stored, after which it can be contrast-processed to enhance flaws, silhouettes, outlines, surface deficiencies and other features. Comparison with the picture content of a known good part under the same lighting conditions then allows a reject/accept decision to be taken.

Machine vision is still far from commonplace, but in the U.S., Object Recognition Systems has several systems installed. At General Motors, it is used to perform the ball-count in bearings. At an AT&T plastic card supplying company, light is projected into the card thickness to see what emerges from imperfections in the oxide stripe surface.

At Eastman Kodak, the technique is used to make sure flash cubes have been correctly

assembled into cameras.

In the UK, Ardel inspects rivets dimensionally at 600 a minute (T. A. Designs, Dorchester), while British Steel has an integrated Photomatrix system that monitors the dimensions of hot bar as it leaves the mill.

There are now more than 50 organisations either supplying equipment and systems or offering consultancy, according to Jack Hollingum's book, *Machine Vision* (IFS Publications, Bedford).

Optics with and without the laser are also being applied to metrology, enabling very accurate, contactless measurements to be made on large assemblies. Other instruments measure surface roughness.

### Detect

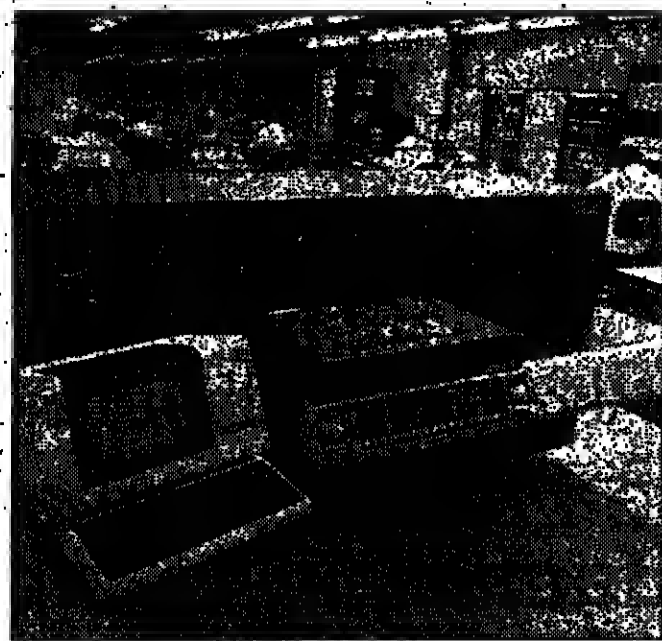
For the electronics industry, two UK companies, Micro Measurements Engineering of Saffron Walden and Lloyd Doyle of Walton-on-Thames, have developed vision systems that will inspect loaded and "naked" printed circuit boards respectively in under a minute.

They detect missing, incorrect or reversed components in the first case, and faulty circuit tracks in the second. Negretti Automation (Aylesbury) offers the U.S. made Vanzetti Systems laser device for faulty solder joint detection.

In the area of testing as opposed to inspection, the electronics industry has led the way and a slim work market in autotest equipment has resulted. This is because manual testing of electronic circuits, either on silicon chips or in the form of many chips on a printed circuit board, has been beyond the ability of humans for several years.

Boards are now tested on electronic machines in a matter of minutes—work which a small army of technicians working all day could not tackle.

Automatic testing is also becoming more common in areas like engine test and white goods production line testing.



Marconi automatic in-circuit test system used by GEC for checking printed circuit boards.

## Sensing robots tackle welding

**Fabrication**  
ANNA KOCHAN

WITHIN THE next couple of years the technology of fabrication by industry will be revolutionised. Automation too will be brought into an area of fabrication which has so far remained relatively untouched—welding.

More robots are used for welding than any other application but even so they have tackled only a fraction of the potential. Welding is a market because they are "blind".

A robot can only do exactly what it is programmed to and therefore relies on complete accuracy of location of the joint it is to weld. As well as accurate fixturing this requires that the parts to be welded must be accurately made.

This is quite a tall order, particularly in the automotive industry where the bulk of welding requirements involve pressings. Other errors can arise because even if the parts to be welded are perfectly aligned at the start of the welding operation, heat distortion during the process can put them out of line.

### Sensors

Because of all these factors, only about 3 per cent of all art welding requirements can be tackled by robots without sensors. If the other 97 per cent is left to robots with sensors, then the market potential is enormous. And many companies are starting aggressive efforts to capture a slice of it.

A number of sensing techniques for locating the joint and tracking the seam have been developed and applications in fabrications of 4mm thickness upwards are beginning to use them. For finding the start

of the joint a tactile sensing system is used.

To take advantage of it the joint must be designed with a special feature such as a V groove, leg joint or fillet. The robot is programmed to go through a search sequence to find this feature by touching it with the weld wire. Once this is accomplished, the robot controller knows the exact position of the start weld and can initiate the cycle.

A second system which tracks the weld while the job is in progress and keeps the weld on the joint is known as through-the-arc. It involves the welding torch weaving across the joint as it welds, at each side of the joint taking samples of current and voltage. By comparing the samples from the two edges, the robot controller can extract the weld gun path as it proceeds.

These two sensing techniques have been available for three or four years but have been applied in production situations only recently. A year ago NEI Thompson, a Wolverhampton-based company in the Northern Engineering Industries group, acquired the licence to sell Japanese-designed Komatsu robots in Europe. The robots are equipped with both joint location and seam tracking sensing as just described.

NEI reports that it has already installed five systems in the UK and has orders for another seven, some of which will go overseas. And the company claims that it is currently inundated with inquiries.

So far, Komatsu robots have been used for mining and earthmoving equipment fabricating involving aluminium and stainless steel of thickness 4 mm upwards. In the future NEI is looking for jobs such as railway chassis fabrication which could involve welds 8-10 mm long.

At the end of this month, Swedish-owned ESAB Automa-

tion will join NEI in the market.

Its sensing system will be integrated with an ASEA robot. Even before the launch date, ESAB's subsidiary in Stevenage reports that it has sold two systems incorporating the package for use in fabrications up to 50 mm thick for mining machinery; the other for heavy pressed fabrications about 12 mm thick.

ESAB notes one disadvantage with the through-the-arc sensing technique. Because of the weaving motion, the weld takes three times as long as if it were straight. ESAB managing director Mark Aldridge says: "To avoid this time penalty ESAB is now developing a real-time adaptive control system without weaving. It should be available by early 1986 but details have yet been disclosed."

### Breakthrough

Real-time adaptive control is, however, already on the market and it is already achieving great success. It is also British-developed. The company which has made the breakthrough is Meta Machines in Abingdon, formed only a year ago. Its first product, Meta Torch, is based on work done under SERC funding at Oxford University in collaboration with BL Technology.

Designed for sheet up to 3 mm thick, Meta Torch is a highly sophisticated device using a miniature camera and laser light source to look at the joint about 16 mm ahead of the weld. The "picture" seen by the camera is transmitted to the robot controller and the weld path altered accordingly.

Meta says it has an order backlog of 65 units, of which about 25 come from robot vendors who will fit the torch to their machines. Most of the rest will go to be used in the U.S. for applications involving suspensions, engine mounts and wheel supports at Chrysler,

Ford and General Motors. Only three of the units now on order are destined for the UK.

Outside the automotive industry, applications in electronic casework and general enclosure are generating a great deal of interest.

This first Meta system tackles the problem for thin sheet but a version for thicker material is under development and is expected to be on the market by the end of this year.

Also entering the field are two U.S. companies: General Electric and Automatrix, who are expected to launch sensing systems which will cater for both thin and thick materials in a single unit.

Laser welding is another technology which could transform fabrication methods in the future, the main advantage of the laser being that it eliminates thermal distortion and is easily automated. Lasers with powers up to 10 kw are now available from companies such as Ferranti, and these can weld steel up to 20 mm thick.

But fabrications of this size have not been tackled yet. It is still very early days — a recent survey reported that only seven lasers over 5 kw were sold worldwide last year. A few welding applications of low power (1-2 kw) lasers do exist, for example in welding gears onto drive shafts for motor vehicles and pipe welding for the nuclear industry and oil-related industries.

In the U.S., lasers are used for welding refrigerator doors, and in Italy there is an example in washing machine assembly. The white goods industry should see a growth in the use of the laser for welding as will the automotive where applications for suspension parts, petrol tank assembly and roof welding are being investigated.

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## Manufacturing Automation 6

## Complex task to replace human effort

IT IS likely that in the next decade, product assembly will get much attention from the automation experts.

The reason is not difficult to see: assembly is the most labour-intensive activity in factories where lower volume batch production takes place—and such production probably accounts for 75 per cent of discrete product manufacturing. Furthermore, the labour cost of manual assembly accounts for 20 to 25 per cent of the total labour cost for durable goods production.

Even where "hard" (that is, fixed, single product) automation reigns—in the large volume industries of motor cars and telephones for example—the scene is changing as markets demand more product variability with changes at shorter intervals.

Unwelcome as it may be to the conventional production director in Europe, the company that can maintain a flow of new, genuinely better and cheaper products—with no trade-off of quality to achieve lower prices—is the one that will win.

Unfortunately, assembly uses more sensing (sight, touch) and more mental/physical dexterity and judgment than most factory tasks. It therefore calls for aptitude and alertness but is at the same time repetitive and boring. Without full concentration by the operator, the product can suffer.

But the replacement of such human effort with assembly machines is expensive. Product managers are prone to simply equate automation cost with saved labour. In fact, flexible assembly systems (FAS), usually employing robotics and software control by computers, has other important advantages.

Such systems can be designed to assemble many variants of a particular kind of product—pumps, motors, electric panels, diesel engines—without extensive re-tooling and retraining and with minimum adjustment and down time at each change-over. At maximum sophistication, using multi-axis robots, totally different products can be assembled.

This approach has been commonplace for a decade in the electronics industry, where machines assemble integrated circuit chips and other components on to high volume, printed circuit boards. They can

be re-programmed for a new product, but often can deal with only one component type so that several machines are needed. Gradually, robots are beginning to provide an answer for non-standard components.

In mechanical assembly there is much more variability. But the advantages of robotic assembly cannot be ignored in the West. In summary, they are better, more reliable products can be brought to market, ordered by the customer and delivered more quickly, at more competitive prices, with much better response to variety and change.

What do such systems consist of? Modern computing and sensing can now be applied to nearly all new assembly systems, to a degree dependent on the flexibility needed. If one is assembling several million identical 13 amp plugs or carburettors, for example, the emphasis is on speed and the

## Assembly

GEOFFREY CHARLISH

complexity resides mostly in production electromechanics.

With rather more computer power and software, and less mechanical hardware, systems developed by Bosch, IBM and Olivetti, for example, are aimed at making families of assemblies. These work in a relatively fixed structural framework, using pick and place robots designed specifically for assembly work.

Bosch, for example, offers a complete collection of parts to allow assembly systems of almost any size to be built. It offers basic aluminium extrusion bench structures, pallet systems, servodrives, linear robots, transfer stations, feeders, chutes, computers and controllers.

The concept is based on the fact that about 80 per cent of all products have an envelope less than 0.2 metre cube, weigh less than 5 kg and have even less than 20 components.

In Järäla, Sweden, and elsewhere, IBM is using its new 7500 overhead gantry robot, which allows grippers to be positioned anywhere in a horizontal plane measuring some

6 ft x 4 ft, with vertical motion of 18 ins.

The arrangement is particularly suited to picking and placing parts into equipment front panels. The same robot is being used experimentally to make up wiring looms—a pressing problem in aerospace industries, where IBM and Boeing are co-operating. Westland in the UK has a similar research programme.

ASEA, the electrical giant, uses two robots (one ceiling mounted upside-down) to assemble the dozen or so parts of electrical contactors.

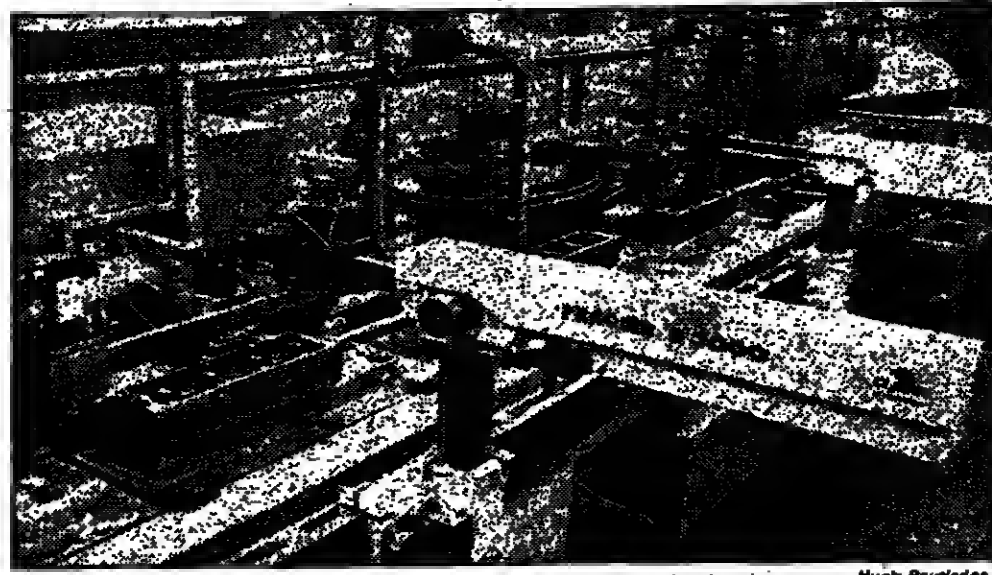
The Swedish Production Research Institute has two ASEA and two IBM robots in a system with 10 assembly stations at which pallets are stopped on the belt long enough for the robots to carry out the assembly tasks. Each robot serves two or three stations and can change its own tools from line-side magazines. Run by an IBM computer, the system is being taught to identify line trouble.

In Britain, Fairley Automation has installed a system at Perkins to assemble diesel engine cylinder heads using Pragma robots and an Allen Bradley controller. A similar system has been devised by Marvin Production Machines (Wolverhampton) for Austin Rover using Unimation robots. Fairley has also equipped Black and Decker in County Durham to assemble motor, gearbox and other items in various DIY power tools.

Flexible assembly is usually not something that can be bought off the shelf and often needs significant re-thinking about the design of the product itself.

Systems can take many forms but, like other experts, Dr David Nitzan of SRI International sees the problem basically in computing terms. There will always be a supervisory computer to co-ordinate workstations at which multiple microprocessors are responsible for sensing, control and command of items like robots and feeders.

There is certainly no shortage of consultants. Among them are Cambridge Consultants, Cranfield Institute of Technology, Computer Application Consultants, Insson, Ingersoll Engineers, PA Technology, PERA, and SRI International.



Assembly of diesel cylinder heads at Perkins. The correct valves, valve springs and coils are fitted automatically into several different types of head whatever their order.

PROFILE: INGERSOLL ENGINEERS

BY IAN RODGER

## Shop floor consultants

INGERSOLL ENGINEERS look like a consulting group that was set up in anticipation of the automated manufacturing technology (AMT) revolution.

Lots of major consulting organisations are getting interested in AMT, but most of them are approaching it from backgrounds in office management. By contrast, Ingersoll comes at it straight from the shop floor.

Ingersoll Engineers was set up in 1962 as a sales support organisation for Ingersoll Milling Machine, the specialised machine tool business of Ingersoll International of the U.S.

"We were getting a lot of proposals to which we didn't have answers, but we didn't want to turn the down," Mr. Edson Gaylord, group chairman, says.

But gradually, the engineering organisation grew and became independent of the machine tool business, offering advice to a wide variety of companies, primarily on manufacturing problems. Today, it has 220 professional engineers operating from offices in the U.S., Britain, France and West Germany, and very little of its business is tied in with the sales of Ingersoll machines.

Ironically, though, Mr. Gaylord suspects that the trend to AMT will strengthen the ties between the two again. Ingersoll

Mill Machine is finding that more and more potential customers who want to buy manufacturing systems are not actually ready and should, with the guidance of consultants, analyse their needs first.

The British office, based at Rugby, has 98 professionals operating in three areas: management consultancy, engineering and project management, and total project engineering.

Mr. Peter Dempsey, chairman of the British office, says his

## INGERSOLL ENGINEERS

goal is to help companies link technology with business success. "The most under-exploited area of most companies is manufacturing. We can almost guarantee to get 10 to 15 per cent out of a company's costs if they do what we say," Mr. Dempsey says.

On average, the British office handles 250 projects a year and 70 per cent of its business comes from former customers. Its client list includes most of the leading names in heavy manufacturing, such as British Aerospace, Cincinnati Milacron, Cummins Engine, GKN, GEC, Hawker Siddeley, Lucas, Massey-Ferguson, Northern Engineering, Perkins Engines,

Rolls-Royce and Vickers. But it also gets about a third of its income from overseas contracts.

One of its main areas of project management expertise is in plant consolidations. Farly because of the severity of the decline in Britain's manufacturing industry in recent years, many companies have found they can no longer operate satisfactorily from their large and often rambling premises.

One of Ingersoll's main marketing points is its extensive knowledge of factories around the world. It claims to be able to tell a client with considerable precision just how his manufacturing costs and technology stand up against those of foreign competitors.

Mr. Dempsey and his colleagues are also active lobbyists for the interests of manufacturing industry, and have been involved in the development of government programmes for encouraging the adoption of AMT.

Ingersoll says that British manufacturers, on the whole, are eager to adopt new manufacturing technologies, but many have not invested for a long time and are taken aback at first by both the costs and the rate at which production technologies are changing. Thus, it tends to take a long time to get major projects approved.

PROFILE: COMAU

BY IAN RODGER

## Focus on U.S.

COMAU MAY NOT be too well known outside the manufacturing automation field, but one of its products, Robogate, has become famous round the world.

Robogate is the advanced robot system for spot welding car body panels together, and it features regularly on television news programmes when the fortunes of the car industry are in the spotlight.

That sort of publicity cannot be all bad, but Comau officials would argue that in the end it is the quality of the product that counts.

In the past year, Comau, a subsidiary of the Fiat group, has passed an important test in that respect. The company had begun focusing its attention on the U.S. market in 1979 and, in the spring of 1982, it went into a joint marketing venture with one of its U.S. rivals, Bendix. The U.S. company also bought a 20 per cent stake in Comau for roughly \$30m.

However, within a year, Bendix was acquired by Allied, a U.S. conglomerate, its factory automation business had been sold to Crown and Trecker, another U.S. rival, and the Comau marketing venture was dissolved.

Comau then decided to set up its own U.S. marketing operation and, since last April, it has taken \$150m-worth of orders for its factory equipment and systems from the U.S. automotive industry.

"Our strongest commitment now is in the U.S.," Mr. Paolo Cantarella, Comau's managing director, says, and he has backed it up by having 100 people based in the Detroit office. "You need to stay in very close touch with the customer in this business, because he tends to change specifications every day."

The company's roots and most of the rest of its 3,200 employees, however, remain very firmly in Italy. Comau was formed in 1977 following the acquisition by Fiat of three well-established Italian machine tool and materials handling companies to add to its own company in the field, MST.

The company specialises in most areas of advanced manufacturing equipment—machining, materials handling, assembly and control and has a wide base of customers, with the recent on large systems, its average contract is

between \$10m and \$20m and it now has 12 months of orders in hand.

About half of the 1984 (\$230m) manufacturing revenue came from sales of mechanical and mechanical assembly systems, the remainder from welding, final assembly and materials handling systems.

Roughly half of total sales are made in foreign markets, with a third last year being made within the Fiat group. Sales to Fiat companies vary considerably, however, being as low as 7 per cent for Fiat's truck division.

Approximately two-thirds of sales are made to the automotive industry, and the company does not seem to have any trouble selling to Fiat's motor industry competitors.



Comau is eager and equipped to supply large advanced manufacturing systems to other industries but finds the opportunities fairly limited.

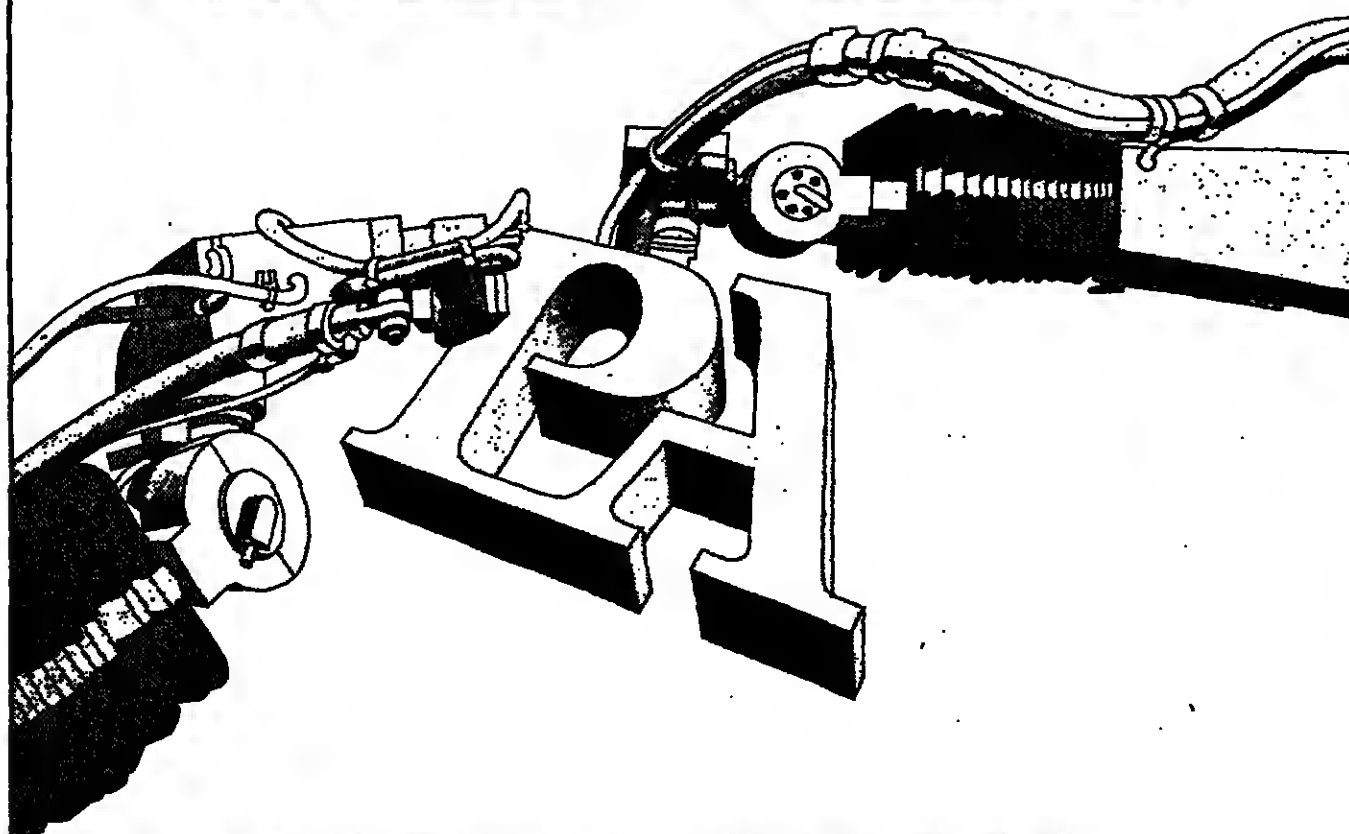
"It is difficult to find people with needs for a high degree of automation," Mr. Cantarella says. "The group's main flexible manufacturing equipment so far have included a \$7m system to machine compressor parts for Borg-Warner in the U.S., one for machine parts for Caterpillar Tractor at Chagrin, and another for Alstom Atlantique in France."

In the materials handling field, it has moved outside the engineering industries, supplying a large automated warehouse to Benetton, the Italian garments group.

Comau's main products, apart from the Robogate, include transfer lines, vertical lathes, automated guided vehicles, robots and control systems. Mr. Cantarella is satisfied with the product line, except in the robot area.

The group is one of the top four suppliers of robots for welding, but its Smart robot is useful only for that and other heavy tasks. There are increasing opportunities for more smaller robots to do more delicate tasks and it is likely that Comau will see apply its existing control and sensing knowhow to smaller robots.

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This conference is designed for directors and managers of manufacturing organisations who are having to examine proposals for automation. It is divided into sessions dealing with particular sectors of manufacturing automation, such as design, machining, materials handling, fabrication, etc. Each session will begin with an address by an expert on the state of the art in that sector, to be followed by two case studies presented by users.

## Programme

## Automating Product Design

AN OVERVIEW OF COMPUTER AIDED DESIGN (CAD) TECHNOLOGY  
What can it deliver? How advanced and cost effective are the systems for testing parts designed on CAD? How efficient are the routines for converting CAD designs directly into machined parts?

Mr Mike Sutton  
Industrial Applications Marketing Group Manager  
IBM United Kingdom Limited  
Case Studies: Austin Rover Group  
Plessey Radar

## Automated Machining

Cells, or islands of automation, are now fairly common and a few more elaborate flexible manufacturing systems (FMS) are operating. Functions such as tool setting and parts inspection are being successfully integrated. Control is increasingly flexible. Improved sensing technologies are being introduced and new cutting techniques.

Mr Fred C Wilson  
President  
Special Machine Group  
The Ingersoll Milling Machine Company,  
Rockford, Illinois.  
Case Studies: Rolls Royce  
Brown Boveri

## Automated Materials Handling

STORAGE AND RETRIEVAL SYSTEMS FOR RAW MATERIALS  
Work-in-progress and finished products are becoming more flexible, using automated guided vehicles and overall computer control.

Mr Sergio Sereni  
Vice General Director  
FATA European Group SpA  
Case Study: Perkins Engines Group

## Fabrication and Assembly

The use of robots in spot welding is firmly established, but is developing more slowly for seam welding and for pick and place functions, notably because of the complexity of control requirements. Advances in sensing technologies are vital to automating fabrication and assembly.

Mr George T Rehfeldt  
Group Vice-President  
Industrial Specialty Products  
Cincinnati Milacron, Cincinnati  
Case Studies: Deere & Company  
Fiat Auto SpA

## Closing Address

THE POTENTIAL OF COMPUTER INTEGRATED MANUFACTURING (CIM) - HOW SHOULD MANAGERS BE PREPARING FOR IT?

Mr C R Whitney  
Chairman of the Board and Chief Executive Officer  
Allen-Bradley Company, Milwaukee

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## National Intergroup restructuring begins to show benefits

By Paul Taylor in New York

NATIONAL INTERGROUP (NII), the U.S. steel and financial services group which recently sold 50 per cent of its steel interest to Nippon Kokan of Japan and is now planning to merge with Bogen Brunswick, a fast-expanding West Coast Drugs and Consumer electronics distributor, yesterday reported its first full-year net profits since 1981. The Pittsburgh-based group, whose earnings reflect the impact of a patchwork of special items associated with the group's radical restructuring, had net earnings of \$12.8m, or 44 cents a share, in the fourth quarter compared with a \$30m, or \$2.06, loss in the 1983 period. Sales plunged to \$178.8m from \$784.3m, reflecting the impact of the sale of the equity stake to Nippon Kokan and the resulting accounting change in the way National's remaining steel interests are handled to an equity basis. The latest quarter includes gains of \$7.3m, or 36 cents a share. The fourth-quarter profit helped lift full-year net earnings to \$32.6m, or \$1.83, compared with a \$154.3m, or \$8.33, loss in 1983. Net sales for the full year fell by 21.5 per cent to \$2,290m from \$2,920m. The 1984 and 1983 results include a series of extraordinary items. Full-year results include the \$7.3m fourth-quarter gains, together with a non-recurring charge of \$18.5m associated with the steel division equity stake sale to Nippon Kokan. The 1983 fourth-quarter and full-year results include a \$53.5m non-recurring charge for the liquidation of National Pipe and Tube, and the write-off of certain other steel-related assets. In addition, the 1983 full-year results included a \$100m non-recurring charge related to the sale of the group's Weirton Steel division to employees and a \$22.1m gain on a debt for equity swap. Mr Howard Love, chairman and chief executive, said "National Intergroup's return to profitability reflects the benefits of our ongoing corporate-wide cost reduction programmes and the continuing restructuring of the company to grow in our most profitable segments. "All of NII's businesses earned an operating profit for the full year. Earnings by our metals businesses in the fourth quarter were affected by weak prices, which are continuing in the early part of 1985. However, our plans and strategies now in place are expected to result in a further improvement in NII's earnings in 1985." NII currently faces a challenge from Lencuza National, a New York-based holding company which owns over a 7 per cent stake in National Intergroup, and other major shareholders, to its plans for a merger with Bogen Brunswick. Shareholders are due to vote on the planned merger on March 7. Mr Love said yesterday: "We strongly believe the merger will provide important benefits to our stockholders, including a major thrust into the rapidly-growing distribution services business. We are confident the combined company will emerge in a strong and competitive financial condition having substantially greater assets and cash flow and a greater degree of diversification."

## Westpac to lead Bond oil deal

By Our Financial Staff

BOND Corporation, the Western Australian beer, property and resources group, has given a mandate to Westpac, Australia's biggest bank, to arrange a \$500m (\$40m) financing package to cover its share of the Harriet oilfield. The field, in shallow water 10 miles from Barrow Island off the coast of Western Australia, is expected to cost about \$578m up to the production stage. Bond owns 62.65 per cent of the Harriet permit as a result of its purchase last autumn of the U.S. Occidental group's interest.

## Hyundai to start Canada plant

By Bernard Simon in Toronto

THE SOUTH Korean group Hyundai is to build its first North American car parts factory near Toronto. The investment appears to be directed at forestalling the imposition of import quotas on Hyundai's cars, which have been in strong demand in Canada since being sold there for the first time a year ago. Pony sales reached 25,100 units in 1984 and captured 11 per cent of the market for imported passenger vehicles. The Hyundai plant, involving an investment of \$25m (\$18.8m) and employing up to 300 people, will initially produce electrical components such as alternators, starter motors and heater motors. Construction of the plant is due to begin later this year. The company said its long-term plans include setting up a research and development department in Canada to produce engine components. A Hyundai official said that the company, unlike many other foreign investors in Canada, will receive no financial assistance from the Canadian Government. Mr Sinclair Stevens, Canada's Industry Minister, said yesterday that the Hyundai investment is "the exact type of commitment from foreign manufacturers that Canada requires."

Japanese car imports to Canada, in contrast with shipments from South Korea, are limited by annual renewable quotas. The Canadian authorities have linked negotiations on the quotas to investment by Japanese manufacturers in Canada. Honda announced last year that it is to build a \$100m assembly plant near Toronto, and a group of leading Japanese parts manufacturers has formed a new company to study opportunities for local investments.

## WEST GERMAN DEAL MAY POSE THREAT TO SUPPLIES OF POWER UNITS

## Klöckner to buy diesel engine rival

By Peter Bruce in Bonn

KLÖCKNER - Humboldt - Deutz (KHD), one of West Germany's major diesel engine and tractor manufacturers, is to buy control of a major diesel engine competitor, Motorenwerke Mannheim (MWM) from its troubled parent, Munich-based Knorr-Bremse. The deal is likely to lead to a flurry of activity among other diesel engine producers in Europe as MWM itself is a major supplier of engines to two of KHD's competitors in the tractor market, Renault in France and Fendt in West Germany. Knorr-Bremse, privately owned and Europe's largest manufacturer of locomotive brake systems, is understood to have won assurances from KHD that engine supplies to existing MWM customers like Renault and Fendt will not be tampered with. Fendt, at least, has suggested it may have to find other engine sources in the longer term, however. Announcing the deal, Knorr-Bremse did not say how much KHD was paying, but control of the engine division is likely to have gone cheaply. MWM, the oldest engine producer in the country, has not been profitable for at least four years, largely because of its continuing exposure in the market for large ship diesel engines. However, the MWM line will provide Deutz with a line of water-

cooled diesels in the medium sizes from 50 to 250 horsepower. Deutz makes only air-cooled engines in this range, and future market opportunities for them may not be as strong as for water cooled engines. Turnover at MWM fell from DM 543m in 1983 to DM 430m last year, a third of which is accounted for by sales to agricultural machinery producers. Both MWM and the Krupp diesel subsidiary, and Cummins of the U.S. had expressed an interest in MWM before yesterday's announcement. Cummins, it is understood, was not keen to maintain the existing works. The sale of MWM, which also has manufacturing facilities in Brazil,

will take a heavy burden off Knorr-Bremse, which is itself losing money and which has been stricken by a bitter two-year long dispute between the uncle and nephew who each own 48 per cent of the group's stock. Knorr-Bremse's turnover of DM 1.3bn (\$410m) in 1983 was nearly 10 per cent down on the previous year. MWM accounts for more than half Knorr-Bremse's sales - and quite possibly a large proportion of its losses - and until a few months ago Herr Joachim Vielmetter stubbornly refused to sell it or at least relinquish control of it. Herr Vielmetter's nephew, Herr Jens von Bandemer, appeared final-

ly to have won a battle to take over his uncle's 48 per cent stake towards the end of last year. By that time a number of senior board members, including Dr Wilfried Guth, then joint chief executive of Deutsche Bank, had given up with the squabbling family and resigned. Herr Vielmetter finally agreed, however, to sell his stake to his nephew by March 31 this year. Herr von Bandemer then shocked the group by announcing at the beginning of this year that he was leaving the industry to join a religious sect. The 49-year-old nephew says he intends floating Knorr-Bremse on the Frankfurt stock exchange.

## Goldsmith to retain stake in Colgate

By Terry Dodsworth in New York

SIR JAMES Goldsmith, the UK financier, is aiming to maintain his investment in Colgate-Palmolive despite a recent court ruling which suggests that the U.S. household products company will be able to keep a controversial new takeover scheme. Sir James acquired a small stake in Colgate-Palmolive last year and subsequently applied to the authorities for permission to increase his holding to more than 10 per cent. Colgate shares began to mount after the announcement of this investment, but speculation quietened again when Colgate adopted an anti-takeover scheme that would make the company considerably more expensive to acquire.

Since then, Wall Street has been waiting for the outcome of a courtroom battle in Delaware which is testing the validity of the new takeover defence. The Delaware court last week decided in favour of a similar scheme, devised by Wachter Lipton, the New York law firm, in a case brought against Household International, the consumer finance company. Sir James, however, still believes there is a good chance that the Household International defence will be overturned in an appeal which has been lodged with the Delaware Supreme Court. For the moment, he says, he is sticking with his strategy at Colgate and has not divested his stake.

Sources close to Sir James point out that the Delaware Supreme Court has taken a strong line on directors' responsibility to shareholders in a recent case involving the sale of Trans Union Corporation to Marmon. Directors were censured for the disposal under the "business judgment" rule - the notion that officers of a company must exercise sound judgment on behalf of shareholders. This rule has formed a central part of the case against Household International.

## CIT-Alcatel puts off planned NY listing

By David Marsh in Paris

CIT-ALCATEL, the French state-run telecommunications group, has postponed earlier plans to make a share flotation on the New York stock market. The company is still examining the question of a listing on the New York over-the-counter market, but has now put back to around 1986-87 the possible date of introduction. When it announced the plans last summer - which would have amounted to the first non-French share listing for a large state-run French group - company officials said the step could be taken this year. Senior CIT-Alcatel executives say the company - which is 57 per cent

owned by the nationalised Compagnie Générale d'Electricité conglomerate - wants to ensure that any proposed New York listing would be a success. The scaling down of the plans is partly linked to uncertainties over the company's future financial performance. It has suffered from stagnating foreign and domestic orders for public telephone equipment, although a FFr 500m (\$51.8m) order signed with China last month brought an end to an exceptionally lean streak on export markets. The CGE group has built up U.S. activities through a policy of acquisitions and expansion over the last two years.

## Wells Fargo to sell mortgage banking unit

By Paul Taylor in New York

WELLS FARGO, the U.S. West Coast banking group, said yesterday that it had agreed to sell its residential mortgage banking subsidiary, Wells Fargo Mortgage, to a limited partnership for \$108m. The banking group said the deal would result in a first-quarter pre-tax gain of \$5m. Under the terms of the deal, which is subject to regulatory approval but is expected to be completed during the first quarter, Wells Fargo Mortgage would be acquired by a partnership formed by Integrated Resources, an investment group which specialises in organising and managing investment programmes for individual and institutional investors. The San Francisco banking group had recently announced that it was considering the sale of the unit.

Wells Fargo Mortgage services a substantial portion of the bank's residential mortgages as well as mortgages held by other investors. The mortgage subsidiary, headquartered in Santa Rosa, California, has assets of about \$125m.

## Greyhound ahead but unsatisfied

By William Hall in New York

GREYHOUND, the U.S. long-distance bus company which endured a long strike in 1983 to push through a 15 per cent wage cut, trebled its fourth-quarter net income to \$38.6m but nevertheless described its 1984 results as unsatisfactory. Net income from continuing operations, which had been depressed by the 1983 strike, rose from \$70.3m to \$125m. Group revenues for 1984 rose marginally to \$2.2bn.

Mr John Teets, chairman and chief executive, said that "even with the beneficial impact in 1984 of the nearly 15 per cent rollback in salaries and wages negotiated with the union, Greyhound Lines' results were wholly unsatisfactory."

Greyhound expected, however, "much improved results" for the bus line in 1985, as a result of previously announced steps to expand its passenger base while cutting its asset base.

## Turnround for U.S. food group

By Our Financial Staff

CPC, the large U.S. food group, made a strong recovery in the final quarter of 1984, with a turnaround from a net loss of \$881,000, or \$0.1 per share, to a \$55.1m profit, or \$1.14. That took the full-year total to \$193.4m, or \$3.98, from \$136.2m, or \$2.81m. Fourth-quarter profits a year earlier were hit by an after-tax charge of \$55m, or \$1.14 a share, arising from an earlier than planned phasing out of two plants which are being rebuilt. Sales for the year reached \$4.37bn, up from \$4.01bn, with \$1.07bn in the latest quarter. CPC processes and markets consumer foods and is a producer of food ingredients and industrial products derived from the corn wet milling process. Its products include Mazola corn oil and margarine.

Sales for the year reached \$4.37bn, up from \$4.01bn, with \$1.07bn in the latest quarter. CPC processes and markets consumer foods and is a producer of food ingredients and industrial products derived from the corn wet milling process. Its products include Mazola corn oil and margarine.

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December 28, 1984

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December 12, 1984



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5th February 1985

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January 28, 1985

## INTERNATIONAL COMPANIES and FINANCE

### Nestle bids \$58m for Australian confectioner

By Michael Thompson-Neel

NESTLE, the Swiss foods group, is offering about \$57.5m (US\$58m) for the 55 per cent of Lifesavers (Australasia) it does not already own.

The move could precipitate a rationalisation of the Australian confectionery market. The offer is \$43.30 cash per share and \$3.90 per convertible net, or two shares and \$1.30 cash.

Nestle has told the Foreign Investment Review Board in Canberra that it would subsequently dilute its interests in Lifesavers to 49 per cent to comply with local investment rules.

The AMP Society, Australia's largest non-government investor, owns 10.1 per cent of Lifesavers and favours the offer. Mr Jack Chia, a Melbourne businessman, owns 6.5 per cent and is thought to be similarly inclined.

Lifesavers (Australasia) made a net profit of only \$83.4m in the year to last July, though trading is thought to have improved considerably in the last six months. Its shares rose 40 cents to \$43.45 in Sydney yesterday.

The deal is the latest in a series of acquisitions by Nestle which culminated late last year in an agreement to purchase Carnation, the U.S. foods group, for around \$80m.

The Lifesavers purchase is being made through Raleigh Nutritional Products, a company formed by Nestle in 1983 to develop involvement in the Pacific area. It is intended to seek an Australian stock market listing for Raleigh in about three years.

Nestle acquired the 15 per cent stake in Lifesavers when selling Australian-based chocolate and sweet plant to the Australian company in 1981. At the time, Lifesavers was also granted a licence to produce Nestle products.

Lifesavers' sales for last year totalled \$128m. Nestle's chocolate and confectionery sales in 1984 totalled \$2.3bn (US\$2.3bn), while the Swiss group's total Australian sales were in excess of \$500m.

### Italian deal by Flaekt

By Our Financial Staff

FLAECT, the Swedish air processing and environmental control group, has bought two Italian companies in an effort to strengthen its position in the Italian market.

The Swedish company, which has had an Italian subsidiary since 1957, said the purchases of Climatherm, a refrigeration equipment manufacturer, and C.A.R. which makes air handling units and air conditioning accessories, are intended to further develop the export of Italian-made Flaect products in the Mediterranean area and the Middle East.

Flaect did not reveal a purchase price. Both acquired companies are in the Milan area.

## LTV reports sharply higher loss

BY ANDREW BAXTER IN NEW YORK

LTV, the third biggest U.S. steel producer, yesterday reported sharply higher fourth-quarter and full-year losses which it blamed on surging steel imports and deteriorating prices.

The Dallas-based group which merged with Republic Steel last June, posted a \$246.7m net loss from continuing operations in the fourth quarter, compared with profits of \$4.8m a year earlier.

The latest figures include a \$74m pre-tax charge in the steel segment and \$58m in the energy business. The charges relate to rationalisation of facilities and related costs, liquidation of stocks and staff reductions. In the 1983 period a \$2.7m

credit lifted final net earnings to \$7.5m, or \$0.4 a share.

For the year, LTV posted a net loss of \$378.2m compared with \$180.7m in 1983. The 1983 figure includes income of \$34.2m from continuing operations and an extraordinary gain of \$23.4m.

Sales rose from \$1.5bn to \$2bn in the quarter, and from \$4.6bn to \$7bn in the year. The results include those of Republic Steel from July 1.

LTV's figures follow the trend set earlier by Bethlehem Steel, which reported sharply higher fourth-quarter losses, and by U.S. Steel, which returned to operating losses in its steel business.

Mr Raymond Hay, LTV's chair-

man and chief executive, said 1984 was an abnormally difficult year for the U.S. steel industry and LTV. Imports surged in the second half, causing prices to deteriorate and operating rates to decline steadily.

However, LTV's near-term liquidity position would benefit from an expected improvement in steel prices, lower capital spending, further stock reductions and continued disposal of non-strategic assets acquired with Republic.

In contrast, Weirton Steel, the West Virginia steel concern which National Intergroup sold to employees in 1983, reported net profits of \$60.8m on sales of \$1.1bn last year. Profit figures for 1983 were not given, but sales were \$929m.

Steel shipments rose from 1.4m tons in 1983 to 2.1m. The company said it was profitable in every quarter of 1984, operating at reasonably high business levels, especially in the second quarter. In line with the industry trend, however, sales and shipments fell by 10.3 per cent and 9.5 per cent in the fourth quarter, compared with the third.

Mr Robert Loughhead, president and chief executive officer, said: "It is a safe assumption that, for the time being, profit margins will continue under great pressure amid withering price competition."

The company's response would be to continue to focus on better quality, efficiency and cost control, he said.

## Saudis buy stake in Texas refiner

BY WILLIAM HALL IN NEW YORK

TAG GROUP, the Luxembourg arm of an investment company owned by Saudi Arabia's wealthy Ojijeh family, has come to the rescue of Valero Energy, a Texas company which has been hard-hit by the slump in the U.S. refining industry.

Valero announced yesterday that Tag Group had agreed to invest \$15m in Valero and another \$50m if it could arrange a feedstock contract for Valero's new \$600m refinery in Corpus Christi which is losing substantial amounts of money.

In common with many refineries in the U.S., Valero's Corpus Christi plant has been making big losses since its feedstock costs are too high to enable it to earn profitable margins on its petroleum product output.

## Intradel purchase lifts Douwe Egberts' profit

BY LAURA RAUN IN AMSTERDAM

DOUWE EGBERTS' acquisition of Intradel, a toiletries company, helped to lift the Dutch coffee purveyor's profits by 38 per cent to \$1.15m (US\$1.1m) in the first half of fiscal 1984-85 from \$1.45m a year earlier.

Without the consolidation of Intradel, which is based in Amsterdam, Douwe Egberts' earnings would have risen 13 per cent in the July to December period of 1984. Foreign operations, which rose to 57 per cent of turnover from 52 per cent, and lower costs also boosted net income. Sales rose by 28 per cent to \$1.205m from \$1.135m, or 13 per cent discounting Intradel.

Douwe Egberts is 93 per cent owned by Consolidated Foods, the U.S. food processor, but is operated as a distinctly Dutch company catering to local tastes. The Utrecht-based company sells premium-priced coffee, tea and tobacco products.

## Multimedia executives propose \$1bn buy-out

BY OUR NEW YORK STAFF

MULTIMEDIA, the U.S. media group, has received a \$1bn management buy-out proposal. The group, which publishes 43 newspapers and operates TV, radio and cable TV franchises, says that a management group headed by Mr Wilson C. Wear, the chairman, was offering \$36 cash and \$25 principal of subordinated discount debentures for each of Multimedia's 16.7m shares.

The senior management team proposing the buy-out has been joined by members of the Peace, Jolley, Siak and Furman families which founded Multimedia in 1968 through the

merger of several regional newspaper and broadcasting companies. It went public in 1971. In the first nine months of 1984 Multimedia earned \$24.1m. Its biggest business division is broadcasting, which had revenues of \$97.3m in the nine months. Newspaper revenues totalled \$74.5m and cable TV revenues totalled \$48.6m.

If the buy-out proposal is successful, the senior management and members of the founding families will hold around 40 per cent of the outstanding shares, with management options to acquire additional shares.

## Maltese bank profits dip

BY GODFREY GRIMA IN VALLETTA

MID-MED BANK and Bank of Valletta, Malta's two leading government-run commercial banks, report increased deposits and advances for 1984 but say they have experienced a poor year for profits.

Mid-Med's accounts show deposits to have grown to \$219.8m (\$440m) from \$218m in 1983. Advances climbed to \$169.8m from \$168.7m.

The increases in deposits by both Mid-Med and Bank of Valletta follow the takeover of accounts previously held by the government savings bank.

Mid-Med's growth in advances mirrors the bank's continued penetration in financing industrial and tourist schemes rising on the island. Since the bank was acquired by the state from Bank of Valletta, there has been more participation in local development projects.

Bank of Valletta deposits increased to \$215.9m from \$208.9m and advances rose to a total of \$155.9m. Taxed profits, however, dipped to \$12.1m from \$13.3m.

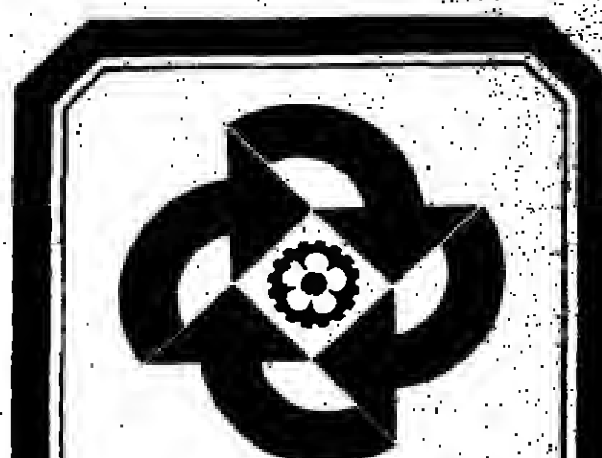
The key factor behind the erosion in profits is the banks' excess liquidity which had to be deposited with the central bank virtually at a loss.

## Aker achieves sharp growth

BY FAY GJETER IN OSLO

Norway's Aker offshore fabricating group lifted 1984 profits, before extraordinary items, to about Nkr 90m (\$8.8m) from Nkr 37.3m in 1983. This was well above the Nkr 75m which the group forecast earlier in

connection with a new share issue following restructuring. However, no dividend is proposed for 1984. Meanwhile a three-for-one scrip issue will put share capital at Nkr 111.6m, up from Nkr 27.9m.



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Two significant international events will attract businessmen and manufacturers from all over the world in the Bulgarian town of Plovdiv in 1985.

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## UK COMPANY NEWS

Alexander Nicoll on the rationale behind Harrisons' bid for Pauls  
Seeking to plough parallel furrows

Pauls, target of yesterday's £106m bid from Harrisons & Crossfield, may rue its publication last month of a glossy 24-page brochure giving a very full account of the company's activities and newly-streamlined structure.

Mr Thomas Prentice, Harrisons chairman, quoted liberally from it yesterday in setting out his company's rationale for the bid—though he said Pauls had been identified as a possible acquisition before its name was changed last June from Pauls & Whites.

Harrisons' good timing is also in evidence on a more fundamental level than this, however. Pauls, facing diminished growth prospects for its animal feed and malt businesses, had strengthened its flavours and fragrances division and branched into food for humans, but has yet to see the full benefits in its bottom line.

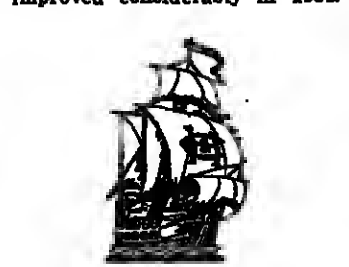
Mr Thomas Prentice, Harrisons chairman, quoted liberally from it yesterday in setting out his company's rationale for the bid—though he said Pauls had been identified as a possible acquisition before its name was changed last June from Pauls & Whites.

Growth in pre-tax profits has been slow, despite steady increases in turnover. In the year ended March 31, 1984, pre-tax profits slipped to £11.5m from £11.6m on turnover of £346.3m, up from £304.5m. The company has forecast little change.

Pauls' largest business, animal feeds, has suffered from EEC farm policy. Initially, the company welcomed Britain's entry into the Common Market on the argument that high prices paid to farmers would keep up the price of feed.

But margins on feed fell sharply in the 1970s. Perhaps the biggest blow came

last year, when milk production quotas were imposed and sales of cattle feed temporarily dried up before resuming at a much lower level. Pauls has also suffered from an exceptionally long downturn in the "hog cycle"—it is strongest in pig food and also breeds pigs in conjunction with farmers—although the market improved considerably in 1984.



Pauls has about 8 per cent of the UK animal feed market, which it estimates at 10m to 12m tonnes per year, and concentrates on selling in the areas around its 11 feed mills. While remaining a strong competitor in this field, it has decided that growth for the company lies elsewhere.

"The Common Agricultural Policy seems designed to bring about violent fluctuations in the supply and hence profitability of livestock with consequent effects on the feed industry," Pauls said in its recent brochure.

But, Pauls' second largest activity, has also been going through a tough period. The levelling off of UK beer con-

sumption and overcapacity in Scottish distilleries has forced Pauls to close two maltings, leaving nine. It has also just extricated itself from an expensive mistake it made in investing in a West German malster.

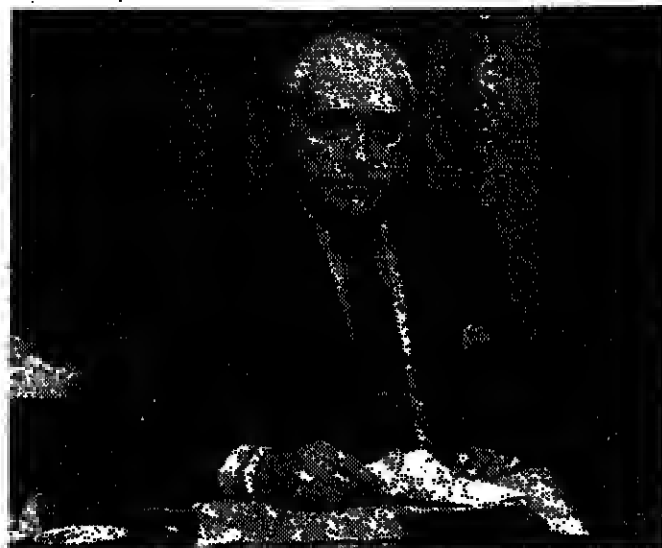
A further thorn in the company's side has also been removed with the disposal of a feed company in Nigeria, where it retains a malt importer which it says is doing well.

The City has been impressed by Pauls' moves to cope with all these problems, and by its build-up of the flavours and fragrances division which offers good growth prospects. Products include bops, essential oils, spices, essences and flavours, including those found in potato crisps and other snack foods. Last year it bought Telford Foods, a maker of mussels and other products.

If Harrisons' Mr Prentice has also been impressed, he clearly believes that Pauls could achieve a better return on capital. But he was choosing his words carefully yesterday and avoiding any direct criticism of Pauls' management record—despite Pauls' obvious distaste for his approach.

"Pauls' policy of providing operating units with autonomy is identical to Harrisons'," he said. "We want the company to run under the name of Pauls and under Pauls' management." The synergy between the two companies, he says, lies "in their management styles and philosophies."

Mr Prentice does not claim



Thomas Prentice, chairman of Harrisons &amp; Crossfield

that there is direct synergy between the businesses though he stresses their common experience of agriculture and says that Pauls should be a temperate agriculture division parallel with Harrisons' existing tropical activities.

Harrisons estimates that group profit before taxation and extraordinary items for 1984 was not less than £22m (£56.8m) and that earnings per ordinary share were approximately 37p (24.55p).

The company also intends to pay a final 1984 dividend of 15.5p,

making 30p against 17p. The group also disposed of its interests in 10 UK plantation and investment companies in 1984, giving rise to extraordinary profits of approximately £9m after taxation.

Despite Mr Prentice's muted tones yesterday, a battle for control is now in prospect. In the City, analysts believed that a number of companies could be interested in making a rival bid—although Pauls' principal competitors could well be ruled out on monopoly grounds.

Hoskins 'leapfrog' battle  
nears end

By Charles Batchelor

AN END is in sight in the long-running takeover battle for Hoskins and Horton, the hospital equipment and light engineering group. London and Midlands Industrials (LMI) has increased the value of its cash bid to £8.8m and declared that both this and its existing share offer will not be increased or extended beyond February 17.

LMI has been fighting a leapfrog battle with Scottish Heritage Trust (SHT) since the end of November for the hand of Hoskins. SHT first put in a £5.5m bid on October 4.

The Hoskins board has recommended all three LMI takeover offers but SHT, which has increased its original bid no fewer than three times, has the advantage of a 25.5 per cent stake in Hoskins built up before the bidding started.

LMI backed up its latest offer with a forecast that it will pay a final dividend of £2.5p per share for the year ending March 31 1985 to make a total for the year of 9.5p, an increase of 19 per cent over the previous year.

The value of its cash offer has been increased to £25.5p from 30p. This increase was made possible by LMI's underwriting of the share offer through its merchant bankers, Henry Ansbacher.

The share offer made by LMI on January 9 is unchanged. This comprises seven LMI shares for every four Hoskins shares. At LMI's closing price of 200p yesterday the offer is worth 350p per share or a total of £5.5m. Hoskins shares fell 5p to 345p yesterday.

An important element of the LMI bid is an agreement to sell the Horton quarrying and ready-mixed concrete business to Redland, the building products group, for £4.7m.

SHT currently has on the table an offer of 10 of its own shares and 30p cash for every three Hoskins shares. At SHT's closing price of 68p yesterday this offer values Hoskins at 340p per share or a total of £3.4m. There is a cash alternative worth 320p per share, a total of £3.2m.

SHT also has an agreement to sell on the Horton quarrying business—to Tilcon, part of the BTR group, for £5m.

LMI said its offer allowed Hoskins' shareholders to choose a shares-only option, avoiding any immediate capital gains tax liability, whereas the SHT share and cash offer implied some tax liability.

LMI was 2.7 per cent of Hoskins' share capital before its offer. It has further acceptance to its offer of a further 5.9 per cent of Hoskins' shares.

**Australian move by County Bank**  
County Bank, the merchant banking arm of National Westminster Bank, is to establish two subsidiaries in Australia to provide services in the domestic and international capital markets, corporate advice and investment management.

Trading is expected to start towards the middle of this year.

The move follows approval granted under Australia's foreign investment policy, and gives an entree for NatWest to a country which is still closed to full foreign commercial bank participation.

**Delta agrees S. A. Africa share sale for £5.2m**  
Delta Group has agreed the sale of its half share in R. Jackson Holdings, a South African metal stockist and distributor, for £11.7m (£5.2m).

Dr Robert Easton, head of Delta's resource services division, said the move was intended to continue a diversification away from the group's traditional metals business.

Haggie of South Africa, which has held the other 50 per cent of Jackson, is to take full control. In 1981 Delta obtained an option to sell, exercisable this year, as part of a reorganisation.

Dr Easton said Jackson had been making modest losses for the past three years. The proceeds, payable in December, were put yesterday at nearly triple the current book value.

**African Lakes**  
Strong tea prices led to more than doubled pre-tax profits of £1.36m at the African Lakes Corporation for the year to July 31, 1984, against £525,585 previously. The dividend is stepped up from 1.1p to 1.5p net, and a one-for-five scrip issue is also proposed.

Turnover of this tea and rubber planter increased from £9.01m to £12.74m. Tax was £207,811 (£93,389) and attributable profits came out at £668,973, against £257,665. Earnings per share were ahead from a stated 6.12p to 15.07p.

Lower values and metallurgical problems resulted in a loss on G and P's mining operations and drought conditions affected its agricultural results.

## Bulloughs call for £11.5m with an eye on borrowings

By ALISON HOGAN

Bullough, the light engineering and furniture manufacturer, yesterday announced a 47.5 per cent jump in pre-tax profits to £10.12m in the year to October.

The group also gave details of a one-for-one rights issue to raise £11.5m aimed at bringing down borrowings following a number of acquisitions.

The 65p price of the rights compares with yesterday's closing market value of 465p, up 37p.

The directors decided to discount the issue deeply to avoid underwriting costs and in effect split the shares and bring them down to a price level closer to the range of March 1983 when the company made its last scrip issue.

Bullough's net borrowings had risen to £13.2m before the rights issue as a result of a number of acquisitions, including two purchases in March last year.

George Barker, a manufacturer of refrigerated display cabinets and a major Marks & Spencer supplier, was bought for £5.5m.

Westwood Holdings, a maker of paper shredders, guillottes, collators and binding machines, was acquired for £2.5m.

With net borrowings almost halved, Mr Derrick Battle, Bullough's managing director, expects the group to make further acquisitions of a similar type and size with profits of up to around £1m.

Bullough's pre-tax profits of £10.12m were up from £6.86m. The increase was largely due to contribution from George Barker and Westwood, along with an "excellent result" from Bullough's largest subsidiary, Project Office Furniture.

The special products division increased its earnings, helped by a first full year contribution from Pipeline Engineering, a maker of equipment for cleaning oil and gas pipelines. Other products within this division include domestic wire products, pressure gauges and library shelving.

Turnover of Propagator, a manufacturer of raised office and computer floors, was higher though profits were lower because of increased pricing competition.

The steady expansion of Bullough through acquisitions makes year-on-year comparisons difficult and it looks as though the management led by Derrick Battle will hardly pause for breath before hitting the "acquisition" trail again. The board outlined its policy of a couple of years ago to find companies in niche markets, of a sufficient size (direct £200,000 to £1m profits) to be able to stand alone. They believe in a small central staff and a high degree of autonomy to local management. It is a philosophy that the likes of Lord Hanson and Sir Owen Green have put firmly in vogue, and Bullough's predominantly institutional shareholding appears to approve. The share price has come up 12 months from 264p to yesterday's close of 465p up 37p on the day where the historic p/e is 14.5.

**Western Motor moving on with its rationalisation**

THE FIRST phase of Western Motor Holdings' programme to reduce its borrowings and restore profitability is under way, and the directors are currently pursuing the next step.

Initially, the plan was to close and sell garages and associated assets at Cheltenham, Penzance and Launceston. To date only the sale of Cheltenham has been completed, although contracts have been exchanged to dispose of the other two. The properties will realise an aggregate £200,000, which is some £100,000 below the end-1983 book value.

Further details of the second phase will be contained in the annual report covering 1984, which will be published in April.

The directors of Western Motor Holdings, which owns 29.9 per cent of the Western Motor ordinary capital, have given their full support to the programme.

The Austin-Rover Group has formally notified the company of the termination, as from the end of this year, of the distributor agreements relating to Rover and Truro.

Western Motor has been incurring substantial losses for a number of years, and in late November announced its plan to sell off surplus properties to reduce bank debt and restore profitability.

## Textured Jersey up by 64%

Textured Jersey, a knitted fabric maker, increased profits before tax by 64 per cent, from £183,000 to £297,000 for the six months to October 31 1984. The figure included "an appropriate amount" from the company's insurers to cover a fire at one of its Corby factories in September 1983.

Sales increased 21 per cent to £8.05m but, the company says, while business has increased its market share, margins remain under pressure reflecting high street changes and increased petition.

Trading conditions continue to be difficult for Herrburger Brooks, which serves the piano trade, but the fall in sterling against the dollar has hit the group hard.

It has increased material costs substantially and led to a loss on exchange of £51,000 in the half year ended November 30 1984, and this in turn has moved the group round from a £97,000 profit to an £11,000 loss pre-tax.

Turnover in the period dipped by 1.71 per cent to £2.7m, and the trading surplus fell from £121,000 to £13,000. Interest charges were again £24,000. The directors believe that additional

business in Asia and Africa will help towards a return to profitable trading in the second half, but stress that the market for the group's products remains difficult.

Potential areas of diversification in the woodworking field are under review, but considerable research is required because of the very nature of the present production—piano actions, keys and hammers.

Loss per share for the half year came out at 0.57p (earnings 3.71p after tax £48,000). For the whole of 1983-84 the pre-tax profit was £181,000 and the dividend 1.5p net.

## Restway offering 1.26m shares via subscription

Williams de Broe Hill Chaplin are offering 1.26m shares in Restway Retirement Homes by way of subscription at £1 a share.

The recently formed company will join the growing number of businesses specialising in building accommodation for the elderly.

The shares will not initially be traded on the full stock market or the USM. Investors in Restway will, however, qualify for tax relief under the Government's Business Expansion

Scheme. Restway was founded by Emrys Fuge and Walter Davies, both chartered surveyors. They intend to progressively increase the activity of the company and expect that in five years time it will have several developments under construction with further sites both purchased and under investigation.

It is their intention to launch Restway on the USM at that time providing the company's performance and the condition of the market are appropriate.

**Warner Estate tops £3m**  
Warner Estate Holdings, property investor, pushed full year taxable profits up from £2.5m to £3.15m. The dividend is being raised by 4p to 15p with a recommended final payment of 10p (7p).

Turnover for the year to end September 1984 amounted to £10.53m, against £8.55m. Tax totalled £1.29m (£948,000), after which earnings per share were stated as 18p (14.4p). Extraordinary credits of £2.82m (£2.27m) were transferred to other reserves.

During the year the company purchased 250,000 of its own shares for cancellation. A further 25,000 shares can be bought, at a maximum 50p each, before September 8 1985.

Total net book value of land and buildings at the year-end was £62.52m (£53.25m). Net asset value amounted to 778p (634p).

## Tannoy hire and rentals bought out

By Charles Batchelor

THE HIRE and rentals division of Tannoy, the public address system manufacturer, has been bought out by its management for £175,000.

Tannoy's manufacturing operations were themselves bought out by their management from the company's U.S. owners, Beatrice Foods, two years ago.

Tannoy's management, based in Coatbridge, Scotland, could not devote sufficient time to the small hire and rental division, which moved back into the former Tannoy group headquarters in West Norwood, London.

The hire and rental division, renamed Westminster Audio Communications, expects to achieve turnover of £450,000 in 1985, said Mr Jim MacLennan, managing director. "It was a profitable part of Tannoy," he said. It employs 21 people.

Three senior executives of the division, led by Mr MacLennan, have put up £35,000 to take a 33 per cent stake in the new company with Midland Bank Venture Capital providing £125,000 and Midland Bank a £15,000 loan.

Under Beatrice and an earlier U.S. Tannoy's public address system business was run down to concentrate on audio equipment.

It lost money between 1978 and the buy-out in January 1982.

Its new British owners resumed production of public address systems and these will form the core of Westminster Audio's hire business, though other manufacturer's systems are not excluded.

Tannoy maintains voice-raising and recording systems in the Palace of Westminster and provides the sound feed for BBC coverage of both chambers.

**Fleming Enterprise**  
Fleming Enterprise Investment Trust had a net asset value per share of £22.4p at the end of 1984, compared with 257.5p six months earlier.

The interim dividend is lifted by 0.5p to 2.5p net, a total of 7.5p being paid for 1983/84.

Total assets increased from £25.76m to £32.24m and the directors say that during the six months performance was boosted by the increase in the value of Neighbourhood Stores on receipt of an offer for its capital, by favourable price performances from several of its larger investments, and by the sale of investments retaining a full listing.

**Derwent Valley**  
A final dividend of 70p from Derwent Valley Holdings makes a total of 38p for 1984. The company was created last August as the new holding vehicle for Derwent Valley Railway.

Turnover came to £107,190, compared with £121,120, and the profit to £44,080, against £45,231. With the addition of the surplus on disposal of fixed assets £32,326, down from £229,118, the pre-tax profit for the year is £76,406 (£274,347).

Tax takes £19,500 (£88,147) and there are extraordinary debits of £43,809 this time, being the costs of the scheme of arrangement. Earnings are shown at 110p (370p) per share.

**African Lakes**  
Strong tea prices led to more than doubled pre-tax profits of £1.36m at the African Lakes Corporation for the year to July 31, 1984, against £525,585 previously. The dividend is stepped up from 1.1p to 1.5p net, and a one-for-five scrip issue is also proposed.

Turnover of this tea and rubber planter increased from £9.01m to £12.74m. Tax was £207,811 (£93,389) and attributable profits came out at £668,973, against £257,665. Earnings per share were ahead from a stated 6.12p to 15.07p.

Lower values and metallurgical problems resulted in a loss on G and P's mining operations and drought conditions affected its agricultural results.

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## Over-the-Counter Market

High-Low	Company	Price	Change	Gross Yield	% Actual	Fully Paid
144 123	A&A. Int. Ind. Ltd.	142	—	8.8	4.4	7.9
135 135	Int. Cit. Ltd.	135	—	10.6	5.3	9.4
77 81	Airgroup Group	75	—	8.4	4.2	5.9
42 48	Amalgamated Rhodes	37	—	2.9	7.8	4.8
28 32	Barclays Bank	30	—	10.7	5.4	9.4
58 62	Bay Technologies	48	—	3.5	7.3	5.8
201 170	CC. Ordinary	170	—	12.0	7.1	—
182 182	Cheltenham	182	—	8.7	0.7	—
810 100	Carborundum Ltd.	810	—	10.7	12.4	—
85 84	Carborundum 7.5p Pl.	85	—	10.7	12.4	—
120 120	Cheltenham	120	—	8.7	0.7	—
73 51	Osborn Services	61	—	6.5	10.6	6.7
281 182	Frank Hovell	281	—	8.5	4.3	13.3
24 24	Frederick Parker	24	—	4.3	13.3	—
32 28	Frederick Parker	31	—	4.3	13.3	—
61 52	Georgia Star	51	—	2.7	9.6	3.4
28 27	James 24.5p	28	—	15.0	8.0	7.4
218 186	Isis Group	186	—	4.9	4.7	8.4
124 104	Jackson Group	104	—	13.2	4.9	9.8
285 275	James 24.5p	275	—	15.0	8.0	7.4
93 83	James 24.5p	83	—	12.9	14.5	—
88 71	John Howard and Co.	71	—	10.0	8.8	8.7
152 100	Lingaphone Ltd.	100	—	15.0	15.0	—
100 93	Lingaphone 10.5p Pl.	93	—	15.0	15.0	—
602 300	Minihouse Holding NV	300	—	3.8	0.8	47.5
120 120	Robert Hovell	120	—	8.7	0.7	—
60 28	Sermons "A"	28	—	5.7	18.4	16.3
44 370	Taylor & Francis	370	—	4.3	1.2	18.0
247 247	Tweed Holdings	247	—	1.5	6.2	12.1
27 17	Unicof Holdings	17	—	7.8	6.2	11.2
85 85	W. A. Vesta	85	—	17.4	7.7	5.4
247 224	W. A. Vesta	224	—	17.4	7.7	5.4

Prices and details of services now available on Prestel, page 40149

## NEI BASE RATE

with effect from 18th January 1985











# SECTION III - INTERNATIONAL MARKETS

## FINANCIAL TIMES

Tuesday February 5 1985

### WALL STREET

## Confidence remains at high level

CONFIDENCE remained high on Wall Street yesterday as investors awaited the Senate reaction to President Reagan's budget proposals, writes Terry Byland in New York.

The stock market paid little heed to suggestions that the Federal Reserve may have tightened monetary policies last week. After moving erratically in the first two hours, as profits were taken, leading stocks moved up again at mid-session.

IBM and the other technology stocks again led the industrial sector forward. Renewed buying of airline issues boosted the Dow transportation average.

By 2pm, the Dow Jones industrial average was up 8.81 at 1,288.33.

The bond market was overshadowed by the start today of the Treasury's record \$19bn quarterly refinancing programme. Treasury securities eased in sluggish trading, while municipal issues, also facing a heavy input of new issues this week, turned down sharply.

Traders were braced for a pause in the stock market after its remarkable advance, which was checked only on Friday when losses outnumbered gains, for

the first time for 19 days. The Dow average was 8 points down initially yesterday but strengthened later.

Once again, IBM gave a good lead, reversing an initial loss to forge ahead \$2 to an all-time high of \$137. Texas Instruments at \$129 added 5%, and Data General jumped \$1 to \$71.

AT&T continued to top the active list as investors responded favourably to the group's moves into the computer and other high-technology areas. At \$204, AT&T gained 5%.

Merrill Lynch had another busy session, gaining 5% to \$339. The upsurge in stock market trading benefits Merrill which has the largest retail business among the market firms.

Car issues looked subdued after predictions of flat profits in the final quarter of 1984. General Motors managed a 5% gain at \$82. In airlines, Delta was a firm spot at \$42.74, a net 3% up.

But Eastern Air Lines, in technical default on much of its \$2.5bn long-term debt after failing to reach agreement with its three major unions, eased 5% to \$4. The airline default is considered unlikely to bring any drastic action from its creditors, and further negotiations with the unions are expected.

In a firm oil sector, it was the speculative situations which stood out again. Unocal, tipped by the market as the next target for Mr T. Boone Pickens, jumped a further 1% to \$42. In heavy trading, Schlumberger, the oil services group, was unchanged at \$40.40 but was again prominent in the active list.

Among financial issues, stock in Sallie Mae, the federal students loan association, was 5% down at \$20. The quasi-

federal body could suffer reduced business if President Reagan's proposed cuts in education spending become law.

Selling of Taft Broadcasting took the stock down 3% to \$54 after the announcement that it was buying the broadcasting properties of Gulf Broadcast. Gulf dipped 5% to \$14.

The bond market was hardly changed at mid-session. The long bond traded at 113 with the when-issued market showing higher yields on the securities to be auctioned this week. Bill rates strengthened but federal funds shaded easier at 8 1/2 per cent.

Views on Federal Reserve policies were mixed. Some analysts pointed out that the Fed had made system repurchases on Friday when the federal funds rate approached 9 per cent. On balance, Friday's shakeout in bonds will help the passage of this week's three auctions of Treasury securities - \$7.25bn in three-year notes today, \$6bn in 10-year notes tomorrow and \$5.5bn in 30-year bonds on Thursday.

### CANADA

## Resources fuel run to peaks

THE TORONTO Stock Exchange (TSE) is the latest of the world's leading bourses to bound to new highs, writes Bernard Simon in Toronto.

Within weeks of many analysts forecasting an unexciting year for Canadian investors in 1985, the TSE 300 index was moving steeply upward, gaining 6.1 per cent during January to a peak of 2,604 on the last day of the month.

The value of shares traded in January - just over C\$4bn (\$3.01bn) was also the highest ever, while volume was 36 per cent up on a year ago. A similar burst of activity has enlivened the Montreal exchange, with last month's trading volumes more than 40 per cent above the previous peak in December 1983. Montreal's share of combined trading values rose to more than 21 per cent last month, compared with 19 per cent in January 1984.

The TSE index has slithered back in the last few days following a slight rise in Canadian short-term interest rates and growing fears that the new Conservative Government in Ottawa is backing away from firm action to cut the budget deficit.

The reversal has so far failed, however, to dampen now-widespread optimism on the market's prospects for the rest of this year.

Wood Gundy, the Toronto-based investment dealer, expects the TSE 300 to reach 2,800 before the end of 1985. Mr Robert Farquharson, vice-president of AGF Management, a leading Canadian mutual fund group, predicts a 20 per cent jump in share prices.

The Toronto stock market, like the Canadian economy as a whole, normally

problems at its new Quintette coal mine in British Columbia.

Institutional buying has so far been the mainspring of the TSE's recent advance, but banner headlines and bullish brokers' reports could tempt small investors if interest rates continue downward. Meanwhile, the exchange is pressing ahead with pioneering efforts to broaden market liquidity.

Last week, it agreed to set up a two-way electronic trading link with the Midwest Stock Exchange in Chicago. A similar link with the American exchange is due to come into operation this spring, giving Canadian investors access to U.S. markets where Canadian companies are traded in substantial volumes.

### LONDON

## Strength of dollar takes toll

EQUITIES and government stocks in London were hit by fears that the dollar's renewed strength would rule out an early cut in UK interest rates.

The FT Ordinary share index opened with a sharp fall of 16.3 points, but top-quality equities rallied to bring the index back to 968.3 at the close, a fall of 9.2.

Glits were particularly uneasy, awaiting the announcement, later today, of the January money supply figures, and quotations closed at around the session's lowest.

Sterling and other main currencies weakened, and UK money markets rose as the dollar surged higher on stronger views that the Federal Reserve was unlikely to let U.S. rates fall any further. Revived concern over U.S. government overspending and the huge budget deficit brought further support of the U.S. currency.

Government securities followed the trend set by American bond prices. Minor rallies created by bargain-hunters were soon aborted, and longer-dated gilts showed falls of up to a full point. The shorts closed around 1/2 lower, while index-linked stocks suffered losses ranging to 1/4. The key three-month interbank rate rose from 12% to 13% per cent.

Blue-chip industrials rallied when it became apparent that the early mark-down had been overdone. Pharmaceuticals were heavily involved in the initial weakness after a report that the Government was seeking to reduce profit margins on capital equipment.

Chief price changes, Page 30; Details, Page 31; Share information service, Page 32-33.

### EUROPE

## Rate fears leave strong after-taste

INTEREST RATE fears that curbed many European bourses last week continued to leave a strong after-taste in some centres yesterday.

Frankfurt investors were soured by rate worries, and the Commerzbank index took the brunt of early concern. Its mid-day calculation of 1,139.2 was 17.4 lower and reflected the falls of up to DM 5 in many shares.

Heaviest losses were sustained by some of the more recently buoyant stocks, indicating strong profit-taking. Among these, Allianz lost DM 34 to DM 1,020 while Nixdorf, a strong overseas favourite in recent weeks, fell DM 10 to DM 518.

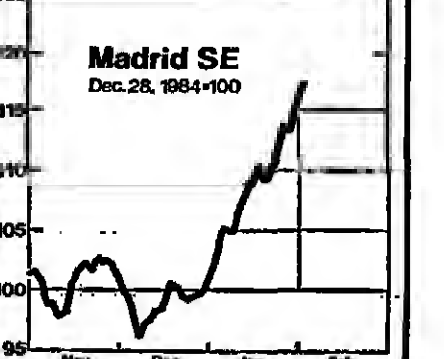
Among car makers that have been bought on the strength of the dollar and their high export exposure, Daimler slumped DM 19 to DM 618, and BMW fell DM 7 to DM 351, although VW limited its losses to DM 2.90 at DM 190.10.

The banking sector was unmoved by the interest rate concern triggered by last week's rise in the Lombard rate. The central bank's president Herr Karl Otto Pöhl warned that the rate rise should not be used by German banks as an excuse to raise their lending rates.

Deutsche Bank lost DM 6.50 to DM 392.50, Commerzbank fell DM 6.20 to DM 162.80 and Dresdner slipped DM 5.70 to DM 183.30.

Among chemical, electrical and steel sectors, Bayer retreated DM 3.50 to DM 185, Siemens dropped DM 5 to DM 506 and Hoechst was DM 3.50 cheaper at DM 101.

Bond prices collapsed with some issues losing up to 150 basis points. The setback stemmed from last week's Lom-



Madrid SE  
Dec. 28, 1984=100

hard rate move and further unease over the prospect of U.S. interest levels.

Estimates of Bundesbank purchases exceeded DM 100m, but the backlog of paperwork prevented a final, accurate calculation. The central bank bought DM 3.7m of public paper on Friday.

Share turnover for the bourse in January more than doubled to DM 5.62bn from the DM 2.67bn in December.

Bond turnover rose 26.7 per cent to DM 6.97bn.

The financial sector in Amsterdam was unsettled by local interest rate developments. ABN surrendered the gains made last Friday after its 1984 profits forecast, closing FI 9 down at FI 387. NMB was FI 3 lower at FI 173.50, and AmRoi finished FI 2.20 down at FI 73.00.

Some sector leaders encountered only slight price movements, and several finished the day higher. Royal Dutch gained 70 cents to FI 189.70, and Unilever rose 40 cents to FI 334.90.

Heineken turned down FI 1.40 to FI 152.8, and photocopy group Oce van der Grinten slipped FI 4 to FI 284.50 after opening unchanged.

The bond market reeled under the spectre of higher short-term interest rates, and key issues showed falls averaging 50 to 60 basis points.

Profit-taking eroded recent gains in a sharply lower Zurich, with sentiment hit by the weakness of the franc against major currencies and Friday's Wall Street performance.

Chemicals, recent favourites, were hard hit. Ciba-Geigy dropped Sfr 40 to Sfr 2,780 and Sandoz Sfr 150 to Sfr 7,650. Nestlé was marked down Sfr 35 to Sfr 6,070 after its Australian corporate moves.

Bonds were weak over a broad front and were depressed by the same interest rate factors that affected other bond markets. A large volume of new issues also conspired to take prices lower.

Active trading took Madrid higher with a rally in the electrical sector, sparked by asset reshuffles at government-backed utilities, lending impetus.

Telefonos, the communications monopoly, rose 1 point to 135.7 per cent of nominal value, although banks were easier.

Banks and construction issues showed small gains in a narrowly mixed Paris. Export-sensitive stocks were weaker as Moët Hennessy dropped Ffr 20 to Ffr 1,955 and Pernier fell Ffr 13 to Ffr 467.

Blue chips dominated active Stockholm trading, with Volvo SKr 18 up at SKr 300 and Pharmacia SKr 5 ahead at SKr 225 receiving most of the attention after the car maker's equity purchase in the pharmaceutical group.

A broadly lower Milan did not prevent food processor IGP from soaring to 14,900 before closing at 14,565, a gain of 11,755 after the acquisition announcement by the De Benedetti family-controlled holding company CIR.

KEY MARKET MONITORS				
Standard & Pools 500 (Composite)				
1980	1981	1982	1983	1984
100	120	140	160	180
1985	200	220	240	260

STOCK MARKET INDICES				
	Feb 4	Previous	Year ago	
NEW YORK				
DJ Industrials	1,286.33	1,277.12	1,197.03	
DJ Transport	614.58	609.94	535.37	
DJ Utilities	149.57	148.64	131.08	
S&P Composite	179.80	178.63	160.91	
LONDON				
FT Ord	968.3	977.5	815.5	
FT-SE 100	1,268.2	1,272.6	1,059.8	
FT-A All-share	609.95	612.75	492.88	
FT-A 500	666.75	669.52	525.98	
FT Gold mines	473.3	482.0	579.2	
FT-A Long gilt	10.91	10.82	10.09	
TOKYO				
Nikkei-Dow	11,891.08	11,946.96	10,134.1	
Tokyo SE	820.50	820.01	775.85	
AUSTRALIA				
All Ord.	768.8	772.7	776.8	
Metals & Mins.	438.1	445.0	547.2	
AUSTRIA				
Credit Aktien	61.33	60.40	55.48	
BELGIUM				
Belgian SE	2,148.97	2,114.28	-	
CANADA				
Toronto	2,158.5	2,159.2	2,298.0	
Metals & Mins	2,581.7	2,575.4	2,455.6	
Montreal	130.58	130.14	120.41	
DENMARK				
Copenhagen SE	173.50	172.30	222.47	
FRANCE				
CAC Gen	195.1	195.7	188.1	
Ind. Tendance	106.1	106.6	90.4	
WEST GERMANY				
FAZ Aktien	390.39	397.09	370.28	
Commerzbank	1,139.2	1,156.8	1,094.5	
HONG KONG				
Hang Seng	1,363.22	1,366.26	1,108.54	
ITALY				
Banca Com.	264.17	264.69	229.14	
NETHERLANDS				
ANP-CBS Gen	195.2	197.0	174.8	
ANP-CBS Ind	154.8	158.5	144.1	
NORWAY				
Oleo SE	326.39	329.28	242.67	
SINGAPORE				
Straits Times	828.19	831.25	1,071.01	
SOUTH AFRICA				
Gold	n/a	918.3	889.8	
Industrials	n/a	973.1	973.0	
SPAIN				
Madrid SE	117.41	116.28	77.2	
SWEDEN				
J & P	1,471.98	1,481.59	1,594.5	
SWITZERLAND				
Swiss Bank Ind	408.8	413.1	376.4	
WORLD				
Capital Int'l	195.9	197.1	184.9	
GOLD (per ounce)				
	Feb 4	Prev		
London	\$301.75	\$303.25		
Zurich	\$301.10	\$303.75		
Paris (filing)	\$300.67	\$302.85		
Luxembourg	\$301.10	\$304.80		
New York (Feb)	\$302.10	\$303.20		
COMMODITIES				
	Feb 4	Prev		
Silver (spot fixing)	\$49.25p	\$58.8p		
Copper (cash)	\$1,283.50	\$1,244.50		
Coffee (Mar)	\$2,389.50	\$2,379.00		
Oil (spot Arabian Light)	n/a	\$27.80		

TOKYO

## Rush toward sidelines as yen plunges

THE YEN'S plunge came as a big disappointment to investors in Tokyo yesterday, and share prices lost most of their early gains towards the close, writes Shigeo Nishizaki of Jiji Press.

The Nikkei-Dow market average closed the day at 11,891.08, a rise of 1.52 points. Volume declined from last Friday's 648m shares to 333m, and declines outnumbered advances by 365 to 301, with 162 issues unchanged.

After two days of severe setbacks, the market made a good start, with selective buying centring on biotechnology-related and incentive-backed issues.

But investors hurried to the sidelines as the yen lost ground to the U.S. dollar, reaching a 26-month low of ¥250.10 in Tokyo yesterday.

Investors were also concerned that President Ronald Reagan, in his budget message, would not take any drastic measures to hold down expenditure in order to trim huge U.S. budget deficits.

Mitsubishi Chemical, actively traded last week, shed ¥14 to ¥419, though the issue topped the most active stock list with 19.5m shares.

Dowa Mining, the second busiest stock with 18.7m shares changing hands, closed ¥2 higher at ¥702 after gaining ¥35 at one stage. Investor interest in the issue was bolstered by rising demand for metal powders for compact discs (CDs).

Yamanouchi Pharmaceutical, the third most active stock with 14.5m shares traded, jumped ¥300 to ¥4,300, spurred by the development of an anticancer drug.

Brisk demand for materials for aluminium magnetic disk stirred interest in Sumitomo Light Metal, lifting the issue ¥17 to ¥350.

Keihin Electric Express Railway advanced ¥14 to ¥330 on foreign buying, while Mitsubishi Steel scored a rise of ¥25 to ¥295 on reports that foreign investors were continuing to buy the issue. Nippon Gakki jumped ¥80 to ¥2,130.

Yukon Kogyo added ¥80 to ¥502, with foreign investors placing buy orders for 800,000 shares in early trading. Maruko also gained ¥80 to ¥875 on suggestions that speculators were buying into the issue.

Bond prices dropped in slow trading. Smaller brokerage houses discouraged by the yen's slide, moved toward selling, while institutional investors kept to the sidelines.

The yield on the benchmark 7.3 per cent long-term government bonds, maturing in December 1993, rose to 6.635 per cent from last Saturday's 6.575 per cent.

GOLD and base metal mining issues turned lower in Toronto yesterday while oil and gas shares displayed a measure of strength.

Early losses were often recouped, with Dome Petroleum 1 cent off at C\$2.81, Daon 5 cents lower at C\$3.05 and Alcan C\$4 cheaper at C\$38.50. Cominco traded C\$4 higher to C\$15, and Bell Canada slipped C\$4 to C\$36.75.

Utilities were the weakest sector in Montreal as banks and industrials curtailed their losses.

mirrors trends in the U.S. Many of the factors pushing Canadian share prices ahead are the same as those affecting Wall Street.

They include lower interest rates, confidence that the North American economy (and thus corporate profits) will be stronger in 1985 than many feared a few months ago, low inflation and the consequent willingness of investors to accept higher price/earnings multiples.

Corporate profits are rising strongly, despite the supposed business slowdown in the fourth quarter of 1984. Maclean Hunter, a leading publishing group, lifted net earnings in the final three months of last year by 45 per cent compared with 1983. Northern Telecom, the telecommunications equipment manufacturer, recently reported a 60 per cent jump in fourth-quarter income.

The weakness of world oil prices has failed to dampen investor enthusiasm for Canadian oil stocks, which are among analysts' current TSE favourites. Imperial Oil, Exxon's Canadian subsidiary, lifted earnings 50 per cent in the final three months of 1984, and investment dealers Loewen, Ondaatje, McCutcheon forecast that the company's income will advance 25 per cent this year and another 40 per cent in 1986.

The price of Imperial Oil A shares has risen in the past year from a low of C\$33 to a record of almost C\$48.

Canadian oil and gas producers stand to benefit handsomely from changes in government energy policies expected later this year, including more flexible pricing and a lighter tax burden.

Mr Charles Winograd, research director at Richardson Greenshields of Winnipeg, says that energy shares such as Imperial Oil, Alberta Resources (in which the Belzberg family of Vancouver is a large shareholder) and Alberta Energy are blue chips "in disguise."

Other sectors that have caught investors' eyes on the TSE include motor manufacturers (share prices have soared by an average of 53 per cent since last July), property developers (up 44 per cent) and transport operators.

One key difference between the Toronto and New York markets is the heavier representation north of the border of resource companies, reflecting the role of mining, forestry and energy in the Canadian economy. The depressed earnings of some companies in these sectors have held back the overall advance of the Toronto market.

Share prices of gold and asbestos producers are, not surprisingly, still lower on average than they were in mid-1984. Denison Mines, whose interests include coal, uranium and oil and gas (mostly outside Canada), suffered a decline in income last year, to C\$80.5m from C\$100.3m in 1983.

Although investors are beginning to nibble at gold and base metal shares, Denison's share price was battered last week following reports of continuing

HONG KONG

A LATE appearance by bargain-hunters boosted shares in Hong Kong. The Hang Seng index fell by nearly 13 points at midday, but by the close it had recovered to 1,363.22, up 8.96.

Turnover at HK\$220.67m was sharply down from Friday's peak of HK\$3.31bn. This record was mainly the result of the completion of the deal by which Hongkong Land, 8 cents up to HK\$4.45, sold its 34.6 per cent stake in Hongkong Electric to Hutchison Whampoa.

Hutchison rose 20 cents to HK\$20, and Cheung Kong, which has a large stake in Hutchison, was unchanged at HK\$13.50. Hongkong Electric was also steady at HK\$7.85.

Stocks were helped by a government sale of five property sites which totalled about HK\$110m, slightly above market expectations. Institutional investors, however, stayed on the sidelines, waiting for Wall Street to give the market new direction.

### AUSTRALIA

THE OIL and gas sector led a decline in Sydney which was reflected in a fall of 5.4 in the All Ordinaries index to 767.0 after what many brokers saw as a long-overdue correction to recent highs.

The decline was accompanied by a sharp drop in the number of shares traded, from 54.5m on Friday to 28.3m.

Shortly before mid-session, however, the market staged a partial recovery when industrial issues received solid support.

Among those to register declines were BHP, which slipped 12 cents to A\$5.12 and CSR, which eased 5 cents to 2.95.

A takeover approach lifted Lifesavers 40 cents to A\$3.45. Raleigh Nutritional, a Nestlé subsidiary, has offered A\$3.30 a share for the group.

Allied Mills shed 10 cents to A\$3.15 after rising sharply on Friday ahead of news that it agreed in principle to form a joint company with Pillsbury.

### SINGAPORE

PROFIT-TAKERS halted last week's rally in Singapore shares. Wall Street's decline on Friday cast some gloom over the market initially, but stocks recovered to close above their lowest levels.

The Straits Times industrial index, down 4 points at midday, pulled back to 828.57, down 2.68. Turnover showed a sharp fall from Friday's 24.8m shares to 14.3m.

Blue chips remained in the spotlight and closed generally softer while banks saw modest losses.

Many recently favoured stocks retreated. Genting declined 10 cents to S\$5.40, Singapore Press fell 5 cents to S\$6.55 and Rothmans 4 cents to S\$3.20. Straits Trading, however, rose 6 cents to S\$4.74 and Haw Par 4 cents to S\$2.33.

In the property sector, Singapore Land gave up 6 cents to finish at S\$3.24, and Selangor Properties declined 3 cents to S\$2.18.

### SOUTH AFRICA

GOLD STOCKS closed mixed in Johannesburg after a day of directionless trading. Mining houses and mining holding companies put on a similar performance to those on the gold board, while industrial shares showed little change from Friday's closing levels.

Higher-priced gold issues were generally easier. Southvaal lost 75 cents to R76, but Buffels edged up 50 cents to R87. Among second-rank gold shares Free State Geduld dropped 50 cents to R42.

Other mining shares were mainly steady, with De Beers slipping 5 cents to R9.10.



Prices at 3pm, February 4

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New York • London • Paris • Geneva • Zurich • Hong Kong • Tokyo



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## WORLD STOCK MARKETS

AUSTRIA	Feb. 1	Price	+ or -	GERMANY	Feb. 4	Price	+ or -	NORWAY	Feb. 4	Price	+ or -	JAPAN (continued)	Feb. 4	Price	+ or -	AUSTRALIA (continued)	Feb. 4	Price	+ or -	OVER-THE-COUNTER	Stock	Sales (thd)	High	Low	Last	Chg	Stock	Sales (thd)	High	Low	Last	Chg	Stock	Sales (thd)	High	Low	Last	Chg	LONDON	Chief price changes (In pence unless otherwise indicated)	RISERS	FALLS	D-D	F-F																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	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## COMMODITIES AND AGRICULTURE

## Firmers trend in metal markets

By Our Commodities Editor

## LONDON METAL EXCHANGE

## WAREHOUSE STOCKS

(Changes during week ending Feb 1)

Aluminium	+2,400 to 140,550
Copper	+3,725 to 114,400
Lead	+4,050 to 55,575
Nickel	+1,624 to 6,528
Tin	+680 to 22,880
Zinc	+675 to 29,600

(tonnes)

Silver +230,000 to 53,034,000 (ounces)

EASIER STERLING, and a rally in copper, brought a generally firmer trend on the London base metal markets yesterday. After declining for three days in succession last week from the five-year peak reached last Tuesday, copper opened on a steeper note yesterday and closed with the three months higher grade quotation 59 up at £1,274.25 a tonne.

The fall in copper warehouse stocks to the lowest level since December 1981 was in line with market expectations and made little impact on prices. Indeed there were reports to be free of offerings of cash metal that maintained the gap between the cash and three months price.

The decline in aluminium stocks was also anticipated, but the market was boosted by the news late on Friday that U.S. producer Alcoa was closing a pitline normally producing over 34,000 tonnes a year.

This steady decline in zinc stocks to the lowest levels for nearly 10 years remains a dominant influence. The standard grade cash price advanced strongly again yesterday by £11.5 to £746.5 a tonne.

Inco (Europe) announced yesterday that it has ceased to publish its monthly sterling price for nickel, which was calculated by converting the world dollar price on an exchange rate formula. The company said that due to volatility in the dollar-sterling parity it was no longer possible to work out a single exchange rate relevant for a whole month in advance.

## May launch for freight futures

By JOHN EDWARDS, COMMODITIES EDITOR

A DEAL between the Baltic Freight Futures Exchange (known as Biffex) and the Inter Futures Exchange (Inter) to start trading their freight futures contracts simultaneously in May was announced yesterday.

The announcement followed a stormy meeting of the newly-elected board members of Biffex, who voted narrowly in favour of a link with Inter.

Many members claimed they had been given too short notice to decide such an important decision.

Others thought it was not worth selling the main asset (the Baltic Freight Index) just to get co-operation with Inter, the Bermuda-based automated exchange has made little impact with its gold futures contract introduced last October.

Inter announced nearly two weeks ago that it was planning to launch independently in March the first ever ocean freight futures contract.

It has now agreed to postpone the contract until May, while Biffex has brought forward its proposed start up date by a month.

Under the deal Biffex will lease the Baltic Freight Index to Inter for an annual fee (believed to be £25,000) and both exchanges will have identical contracts.

Although the International Commodities Clearing House will provide clearing facilities for both exchanges, there will be no mutual offset trading, although a common clearing may be considered in the future.

Mr Richard Hunt, vice-chairman of the Baltic Exchange, said it would be interesting to see how the two markets fared with Biffex using the traditional open outcry trading system and Inter using fully-automated computer trading.

Biffex had no difficulty in finding 30 floor members, paying £25,000 each for full trading rights. They are made up of a mixture of futures brokers and shipping companies.

However, there has been a disappointing response for an "ordinary" membership, which costs £5,000. Only 20 companies have applied so far against a target of 70.

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Mr Richard Hunt, vice-chairman of the Baltic Exchange, said it would be interesting to see how the two markets fared with Biffex using the traditional open outcry trading system and Inter using fully-automated computer trading.

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## Cocoa price climbs to 7 1/4-year high

By JOHN EDWARDS, COMMODITIES EDITOR

COCOA prices climbed to 7 1/4-year high on the London futures market yesterday as the recent bull trend, briefly interrupted towards the end of last week, resumed.

The May position, which advanced £100 a tonne last week, gained another £52 to £2,266.50 a tonne. Dealers attributed the rise to speculative buying in a thin market. There was no sign of producer selling being attracted by the higher prices, they noted.

The Cocoa Producers' Alliance will meet in London on February 13-15 to prepare for the resumption in Geneva on February 18 of negotiations for an International Cocoa Agreement. This will be the third attempt to renegotiate the pact. The present agreement expires at the end of September.

Mr Michael Jopling, the British Agriculture Minister, belittled the suggestion when he addressed Hampshire farmers last week. He claimed that a 5 per cent cut in the price paid for cocoa would be enough to calm down over-production and, in any case, last year's record harvest was unlikely to be repeated.

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## Getting to grips with cereals surpluses

By JOHN EDWARDS, COMMODITIES EDITOR

HAVING stemmed but by no means stanching the horrendous costs of its milk regime, the European Community is now trying to lessen the expense of the cereals sector. Under the rules there should be a 5 per cent reduction in the basic price for the next year, beginning August 1, but in its proposals announced last week the Commission called for a reduction of only 3.6 per cent.

Even this figure has been advanced by Herr Kiehl, the West German Agriculture Minister, who proposed recently that the quality standards for grain offered for intervention and export should be raised substantially.

Minimum weights per hectolitre should be raised, and the quantity of admixtures, split grains and weed seeds, so on, should be reduced below the 12 per cent now acceptable, to perhaps 3 or 4 per cent. This would particularly apply to wheat. The French would probably favour this as their grain is generally of a higher quality than British, as is most probably German.

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## India lifts cotton sales ban

By R. C. MURTHY IN BOMBAY

THE INDIAN Government has lifted its ban on cotton exports following a good crop this season and pressure from cotton co-operatives to allow exports in a bid to arrest the price fall.

Exports will be permitted for 100,000 bales (170 kg each) of long staple cotton. Exports will be handled by the Cotton Corporation of India, the Maharashtra State Co-operative Growers Marketing Federation and the Gujarat Co-operative Marketing Federation.

Cotton production this season is estimated at 9.1m bales, about 1.3m bales higher than the previous crop.

There has been a 10-15 per cent drop in cotton prices over the past couple of months. With coming elections to state assemblies, the Government does not want to annoy cotton growers.

The textile lobby, however, which succeeded until recently in pressing the Government to keep the ban, has been emphasising that their will be a shortage of cotton. It wants the country to export if necessary, cotton yarn, a value added item, rather than cotton.

In late January, the Government allowed export of fine cotton yarn, but has fixed an export ceiling of 12m kg against 8m exported in 1984.

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## Farmer's Viewpoint: By John Cherrington

By JOHN CHERRINGTON

Grown Cereals Authority UK cereal intervention stocks will total 3.5m tonnes of wheat and 1m tonnes of barley by the end of the cereals year.

This cannot be welcome news to the Chancellor of the Exchequer. Total intervention costs, buying and storage are paid by the member state and only repaid when the grain is sold.

In view of the large tonnage in intervention throughout the Community, sales are unlikely without heavy subsidy. Which course would be an extra burden on the budget and lead to more arguments between the UK and the rest of Europe.

The other outlet for UK grain is export which from August

to December 31 has amounted to just under 1m tonnes of wheat and 2m tonnes of barley. This is just about double the previous year's tonnage and on the face of it a commendable effort, but it is now said to be petering out. There are simply no viable markets left and the world cereals market is under pressure through high stocks and weak sellers.

It is probable that the Cereals Management Committee of the EEC made a strategic mistake. Because of the strength of the U.S. dollar, in which cereals are traded, the EEC

refused to award any export subsidies for wheat last year. This suited France in particular where wheat is of highest quality. UK exports were also of the milling types for the most part, and so competitive with world supplies.

But most varieties of wheat grown in Britain are feed sorts and would not compete with milling wheat on the world market. Because there are no real quality standards for wheat of different grades, feed wheat had to take its chance on the milling wheat market. Not surprisingly no one was interested.

Barley, however, has been selling well, both from the UK and other countries. The reason

is simple. Barley, mainly used as feed grain, has been enjoying an export subsidy of £20 to £25 per tonne for most of the season.

The refund is set to match other feed grains, mainly barley, on world markets. In a logical world, which the EEC most certainly is not, wheat should in this instance be classed with barley and subsidised accordingly.

In theory it is. Both have the same intervention price. There is a higher intervention price for milling wheat. The problem is just under £5 per tonne.

Bearing in mind the difficulties of imposing quotas or other price reductions, the suggestion of raising quality standards is worthy of examination and the support of those who wish to save the EEC money.

Any grain failing to meet these standards would have to be sold for what it would fetch on the local market. This would reduce the amounts offered for intervention and export, and would strongly compete with the cereal substitutes at present being imported.

But it would only be a temporary solution. Within a few years there is no doubt that the world market for grain would have turned the other way, and the quality standards would be flooding the market once more. Physical restraint is the only answer.

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## London tea values lower

By RICHARD MOONEY

TEA PRICES, at yesterday's weekly London auction were sharply down from last week's record high demand for most grades and descriptions.

According to the Tea Broker's Association (TBA) quality grade tea averaged 31p a kg, 19p down from last week.

Medium grade tea was 14p cheaper at 24p a kg, and low medium 20p down at 24p.

Market sentiment was affected by India's decision last week to release more tea for export, brokers said. The amount was not great, they added, but the move underlined the country's increased willingness to supply the market.

The world stock position had moved more into balance, noted one broker, following last year's 4 per cent rise in world production.

The TBA said demand was less general than recently, with Assams, which received more selective enquiry, generally 5p to 15p lower.

Bangladesh offerings were generally 10p to 15p lower. Except for a few selected lines, Assams were 10p to 20p a kg cheaper with plainer sorts "often neglected" towards the close. Ceylons met quite good demand, usually at lower levels. Enquiry for offshore teas was fair but generally at earlier rates.

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## CURRENCIES, MONEY AND CAPITAL MARKETS

## FOREIGN EXCHANGES

## Dollar breaks through DM3.21

A strong dollar, backed by solid commercial demand, rose to record levels on the foreign exchanges yesterday. Dealers suggested the lack of long-speculative positions in the market is making it increasingly difficult for the central banks to control the dollar's rise and the dollar's rise is being fuelled by the German Bundesbank on the open market, and by the Bank of Tokyo earlier in the day, the U.S. currency advanced.

Against a background of a record \$190 U.S. Treasury programme of auctions this week, and considerable scepticism about the ability of the Reagan Administration to control the burgeoning budget deficit, U.S. interest rates are expected to reverse the recent downward trend. This is reinforced by the larger than anticipated growth in weekly M1 money supply last week and recent signs of recovery in U.S. economic growth.

The dollar's surge began in New York on Friday and continued in the Far East yesterday. The Bank of Japan may have sold up to \$250m, but despite later efforts by the Bundesbank and perhaps other European central banks, the dollar rose to a 12-year peak of DM 3.2115 from DM 3.1785; a record FFR 9.5125 from FFR 9.71; a 9-year high of SwFr 2.7380 from SwFr 2.7035; and slightly over a 2-year peak of ¥269.35 from ¥266.70.

On Bank of England figures the dollar's index rose to a record 148 from 146.7.

**STERLING** — Trading range against the dollar in 1984-85 is 1.1340 to 1.1100. January average 1.1374. Exchange rate index fell 0.4 to 71.3, the lowest level of the day. It opened at 71.4 and touched a peak of 71.5 at 9.00 am. Six months ago the index was 76.5.

Sterling lost 1.05 cents to \$1.135-1.1445, but held up well against other major currencies, as fears faded about disarray in the oil market following last week's majority OPEC agreement, and there was much speculation about an early cut in UK clearing bank base rates. Apart from the sudden resurgence of

the dollar, the market is also waiting with apprehension for today's UK money supply figures. The pound rose to DM 3.5525 from DM 3.57; FFR 10.9360 from FFR 10.91; SwFr 3.0525 from SwFr 3.04; and ¥289 from ¥288.75.

**D-MARK** — Trading range against the dollar in 1984-85 is 3.2115 to 3.1535. January average 3.1698. Trade-weighted index 120.1 against 124.6 six months ago.

The D-mark fell sharply against the dollar, as the U.S. currency closed at its highest level for 13 years in Frankfurt yesterday. It finished at DM 3.2080, around the day's peak, despite intervention by the Bundesbank at the fixing and on the open market. The German central bank confirmed it sold dollars on the open market, but

declined to give details. Dealers estimated official sales were in the region of \$50m to \$100m and the Bundesbank was also known to have sold \$35.5m when the dollar was fixed at its highest level since January 23, 1973 at DM 3.1968 compared with DM 3.1725 on Friday. Selling pressure against the D-mark, as demand continued to grow for the dollar, was also reflected in a weakening of the German currency against some other major units, including the French franc. The D-mark fell to its lowest level in Paris for 13 months at FFR 3.0517 compared with FFR 3.0559 on Friday.

Short sterling prices finished near to the day's lows as hopes of an early reduction in UK interest rates receded slightly. While rates appear set for a

fall, the dollar's rise to record levels once again revived fears of renewed downward pressure on sterling. The March contract opened at 87.55, down from 87.87 on Friday and finished at 87.39.

Euro-dollar prices recovered from the day's lows on profit taking and a slightly lower Federal funds rate. However, market fears that the U.S. authorities were unlikely to relax their fiscal stance to any great extent inhibited the extent of any recovery. The March contract opened at 90.78 and touched a low of 90.72 before recovering to finish at 90.84 still a little down from Friday's close of 90.86.

**STERLING EXCHANGE RATE INDEX** (Bank of England)

	Feb 4	Previous
8.30 am	71.4	71.5
9.30 am	71.5	71.5
10.00 am	71.5	71.6
11.00 am	71.4	71.6
12.00 pm	71.4	71.6
2.00 pm	71.4	71.6
3.00 pm	71.3	71.6
4.00 pm	71.3	71.7

**£ in New York**

	February 4	Prev. close
Spot	\$1.135-1.144	\$1.135-1.144
1 month	\$1.135-1.144	\$1.135-1.144
3 months	\$1.135-1.144	\$1.135-1.144
6 months	\$1.135-1.144	\$1.135-1.144
12 months	\$1.135-1.144	\$1.135-1.144

Forward premiums and discounts apply to the U.S. dollar.

## EMS EUROPEAN CURRENCY UNIT RATES

	Unit	Rate	% change
Belgian Franc	40.336	2.3622	-0.05
German Mark	1.936	2.3622	-0.05
French Franc	6.55957	2.3622	-0.05
Dutch Guilder	2.3622	2.3622	-0.05
Italian Lira	2036.27	2.3622	-0.05

Changes are for Ecu, therefore positive change denotes a weak currency. Adjustment calculated by Financial Times.

## POUND SPOT—FORWARD AGAINST POUND

	Day's spread	One month	% Three months	% Six months	% One year
U.S.	1.135-1.144	1.135-1.144	1.135-1.144	1.135-1.144	1.135-1.144
Canada	1.25-1.26	1.25-1.26	1.25-1.26	1.25-1.26	1.25-1.26
Switzerland	2.00-2.01	2.00-2.01	2.00-2.01	2.00-2.01	2.00-2.01
France	6.55-6.56	6.55-6.56	6.55-6.56	6.55-6.56	6.55-6.56
Germany	3.55-3.56	3.55-3.56	3.55-3.56	3.55-3.56	3.55-3.56
Italy	2036-2037	2036-2037	2036-2037	2036-2037	2036-2037
Spain	166.6-166.7	166.6-166.7	166.6-166.7	166.6-166.7	166.6-166.7
Sweden	10.4-10.5	10.4-10.5	10.4-10.5	10.4-10.5	10.4-10.5
Denmark	13.6-13.7	13.6-13.7	13.6-13.7	13.6-13.7	13.6-13.7
Norway	13.6-13.7	13.6-13.7	13.6-13.7	13.6-13.7	13.6-13.7
Finland	5.9-6.0	5.9-6.0	5.9-6.0	5.9-6.0	5.9-6.0
Japan	236-237	236-237	236-237	236-237	236-237
South Africa	10.4-10.5	10.4-10.5	10.4-10.5	10.4-10.5	10.4-10.5
U.A.E. Dirham	3.65-3.66	3.65-3.66	3.65-3.66	3.65-3.66	3.65-3.66

Belgian rate for convertible francs. Financial time 71.35-71.75. Six-month forward dollar 1.135-1.144. 12-month 2.45-2.46.

**OTHER CURRENCIES**

	Feb. 4	Feb. 3	Jan. 31	Jan. 30	Jan. 29
Argentina Peso	250.61-251.07	250.61-251.07	250.61-251.07	250.61-251.07	250.61-251.07
Australia Dollar	1.450-1.451	1.450-1.451	1.450-1.451	1.450-1.451	1.450-1.451
Canada Dollar	1.25-1.26	1.25-1.26	1.25-1.26	1.25-1.26	1.25-1.26
Denmark Krone	13.6-13.7	13.6-13.7	13.6-13.7	13.6-13.7	13.6-13.7
French Franc	6.55-6.56	6.55-6.56	6.55-6.56	6.55-6.56	6.55-6.56
German Mark	3.55-3.56	3.55-3.56	3.55-3.56	3.55-3.56	3.55-3.56
Italian Lira	2036-2037	2036-2037	2036-2037	2036-2037	2036-2037
Japanese Yen	236-237	236-237	236-237	236-237	236-237
South African Rand	10.4-10.5	10.4-10.5	10.4-10.5	10.4-10.5	10.4-10.5
Swedish Krona	10.4-10.5	10.4-10.5	10.4-10.5	10.4-10.5	10.4-10.5
Swiss Franc	2.00-2.01	2.00-2.01	2.00-2.01	2.00-2.01	2.00-2.01
U.S. Dollar	1.135-1.144	1.135-1.144	1.135-1.144	1.135-1.144	1.135-1.144
U.A.E. Dirham	3.65-3.66	3.65-3.66	3.65-3.66	3.65-3.66	3.65-3.66

**EXCHANGE CROSS RATES**

	Feb. 4	Feb. 3	Jan. 31	Jan. 30	Jan. 29
U.S. Dollar	1.135-1.144	1.135-1.144	1.135-1.144	1.135-1.144	1.135-1.144
Canada Dollar	1.25-1.26	1.25-1.26	1.25-1.26	1.25-1.26	1.25-1.26
Switzerland	2.00-2.01	2.00-2.01	2.00-2.01	2.00-2.01	2.00-2.01
France	6.55-6.56	6.55-6.56	6.55-6.56	6.55-6.56	6.55-6.56
Germany	3.55-3.56	3.55-3.56	3.55-3.56	3.55-3.56	3.55-3.56
Italy	2036-2037	2036-2037	2036-2037	2036-2037	2036-2037
Japan	236-237	236-237	236-237	236-237	236-237
South Africa	10.4-10.5	10.4-10.5	10.4-10.5	10.4-10.5	10.4-10.5
U.A.E. Dirham	3.65-3.66	3.65-3.66	3.65-3.66	3.65-3.66	3.65-3.66

## EURO-CURRENCY INTEREST RATES (Market closing rates)

	Feb. 4	Feb. 3	Jan. 31	Jan. 30	Jan. 29
Short term	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
7 days notice	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 month	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
3 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
6 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 year	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2

Asian 3 (closing rates in Singapore): Short-term 8-8 1/2 per cent; seven days 8-8 1/2 per cent; one month 8-8 1/2 per cent; three months 8-8 1/2 per cent; six months 8-8 1/2 per cent; one year 8-8 1/2 per cent. Short-term rates are all for U.S. dollar and Japanese yen; others two days' notice.

## MONEY MARKETS

## UK rates up in nervous trading

Interest rates were firmer in London yesterday as the market reacted to a firmer dollar. There was also some apprehension ahead of today's UK bank figures. Three-month interbank money opened at 13-13 1/2 per cent and rose to finish at 13-13 1/2 per cent on Friday. Three-month bank bills were bid at 12 1/2 per cent compared with 12 1/2 per cent on Friday. Overnight money opened at 14-14 1/2 per cent and eased to a low of 14 1/2 per cent before finishing at 15 per cent.

The Bank of England forecast a shortage of around £200m and the Bank gave assistance in the morning through sale and repurchase agreements on £100m of 15 per cent, unwinding tomorrow.

In the afternoon the Bank bought £20m of eligible bank bills.

## MONEY RATES

	Feb. 4	Feb. 3	Jan. 31	Jan. 30	Jan. 29
Overnight	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
7 days notice	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 month	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
3 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
6 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 year	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2

## LONDON MONEY RATES

	Feb. 4	Feb. 3	Jan. 31	Jan. 30	Jan. 29
Overnight	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
7 days notice	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 month	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
3 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
6 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 year	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2

## FT LONDON INTERBANK FIXING

	Feb. 4	Feb. 3	Jan. 31	Jan. 30	Jan. 29
Overnight	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
7 days notice	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 month	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
3 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
6 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 year	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2

The fixing rates are the arithmetic mean of the rates quoted by the market on the day of the fixing.

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## FINANCIAL FUTURES

## Weaker trend

Sterling-based instruments were weaker in the London International Financial Futures Exchange yesterday as interest rates rose ahead of today's UK money supply figures and a renewed upward surge in the dollar. Gilt prices opened at 87.55, down from 87.87 on Friday and finished at 87.39.

Euro-dollar prices recovered from the day's lows on profit taking and a slightly lower Federal funds rate. However, market fears that the U.S. authorities were unlikely to relax their fiscal stance to any great extent inhibited the extent of any recovery. The March contract opened at 90.78 and touched a low of 90.72 before recovering to finish at 90.84 still a little down from Friday's close of 90.86.

Short sterling prices finished near to the day's lows as hopes of an early reduction in UK interest rates receded slightly. While rates appear set for a

## LONDON

	Feb. 4	Feb. 3	Jan. 31	Jan. 30	Jan. 29
Overnight	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
7 days notice	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 month	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
3 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
6 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 year	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2

## U.S. TREASURY BONDS (CBT) %

	Feb. 4	Feb. 3	Jan. 31	Jan. 30	Jan. 29
Overnight	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
7 days notice	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 month	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
3 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
6 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 year	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2

## CHICAGO

	Feb. 4	Feb. 3	Jan. 31	Jan. 30	Jan. 29
Overnight	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
7 days notice	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 month	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
3 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
6 months	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2
1 year	14-14 1/2	14-14 1/2	14-14 1/2	14-14 1/2	14-



The list shows the 200 latest international bond issues for which an adequate secondary market exists. The following are closing prices for February 4.

Following are closing prices for treasury securities									
U.S. DOLLAR									
TREASURY									
Issued	Day	Offer	Week	Yield	Month	Day	Offer	Week	Yield
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	100	100	11.35
100	100	100	100	11.35	11.35	100	10		